

THE FAR EASTERN REVIEW

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THE VIOLATION OF THE "OPEN DOOR"

BY

CHINA

The Reasons Why It Is Impossible For American
Manufacturers Of Railway Materials To Secure
Fair Play Under The Present Condi-
tions Of Awarding Tenders

By GEO. BRONSON REA



The Kung-Pao Sheng-Hsuan-Huai
Minister of Posts & Communications

Who Has The Power To Enforce The Plain Terms Of Railway Loan
Agreements, Conceding Equal Opportunity To The Manufacturers
Of All Nations, Repeatedly Ignored In Favor Of Special Interests.

WILL HE DO IT?

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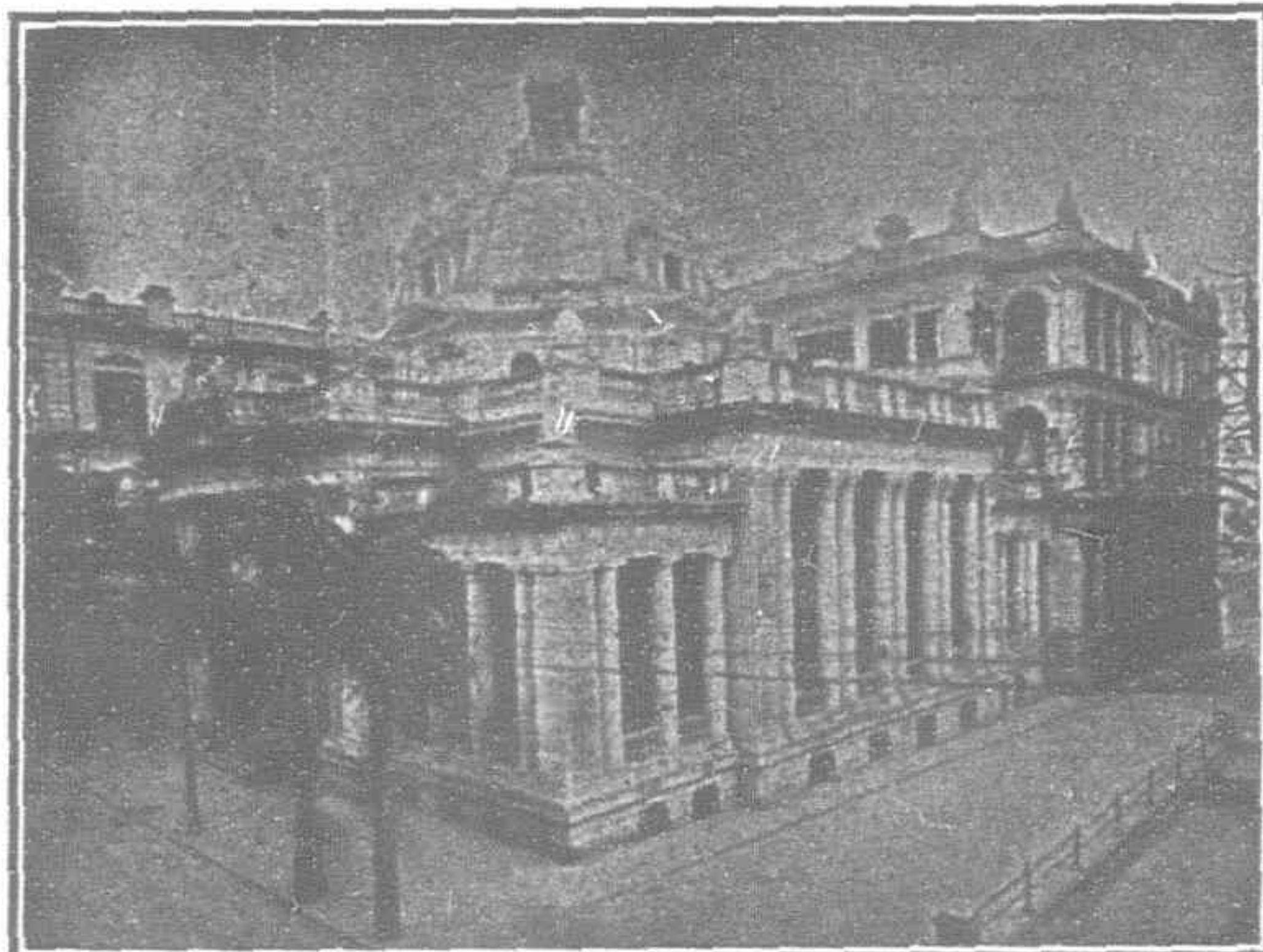
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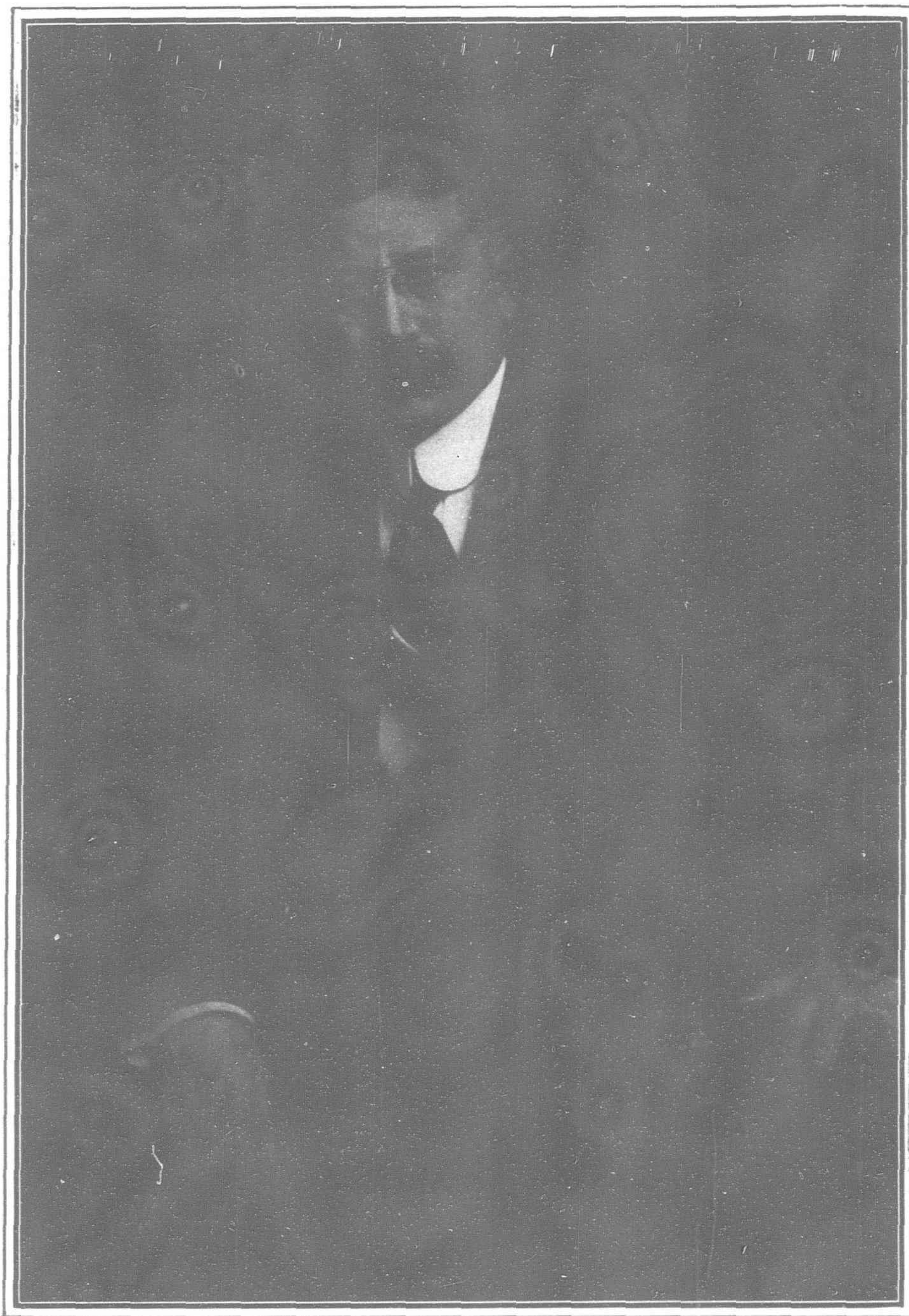
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Supplement to

THE FAR EASTERN REVIEW

August, Nineteen Hundred and Eleven



The Hon. CHARLES B. ELLIOTT

**Member of the Philippine Commission and Secretary of Commerce
and Police in the Government of the Philippine Islands.**

THE FAR EASTERN REVIEW

COMMERCE • ENGINEERING • FINANCE

VOL. VIII.

MANILA, P. I., SHANGHAI, AND YOKOHAMA, AUGUST, 1911

No. 3.

THE VIOLATION OF THE "OPEN DOOR" BY CHINA

The Reason Why it is Impossible for American Manufacturers of
Railway Materials to Secure Fair Play in the Awarding
of Tenders Under Present Conditions

By GEO. BRONSON REA

FOREWORD:—

Prior to the Russo-Japanese War, American trade in cotton goods predominated in Manchuria, American flour found a good market and other American staples figured largely in the trade of China. Conditions have since altered, and American piece goods have given place to the produce of Japanese looms, American flour has disappeared before the competition of the native milled wheat, and a general decline in all lines has been experienced. For some time, it was urged that the Japanese resorted to discrimination and other unfair practices to secure control of the trade, but calm investigation has disproved this idea, and exonerated them from the charge of willfully violating the spirit of the Open Door doctrine. America lost the Manchurian cotton goods trade to Japan because the latter was in a more advantageous position to control the market, and for nearly every dollar of trade in American piece goods so displaced the Japanese purchased railway material and steel products from America which nearly balanced the loss.

And now to the complaint of the American cotton goods manufacturers are added those of the machinery, steel and railway material manufacturers, who find it almost impossible to gain a foothold in the Chinese market. The writer has received many letters from American firms desirous of entering the field, but who are deterred by the experiences of others who have spent considerable time and money in trying to develop a market without results. They assert that there is no hope of a square deal in the awarding of railway tenders in China, for invariably their bids are rejected on the grounds of inferiority, even when lowest in price and equal in quality to the successful bidder.

I have been requested many times to explain why such conditions exist but have refrained from so doing for fear that the explanation would be construed as an attack on British or German interests, and inspired by bitter national bias. Conditions have arisen however since the signing of the Hukwang Railway Loan Agreement, demanding that American manufacturers be acquainted with the reasons why their materials have been rejected and why it has been impossible for them to secure a fair share of China's market.

The Hukwang Agreement gives a fair field to the materials of America, Great Britain, France and Germany, and American manufacturers are looking forward with keen interest to the purchase of materials, hoping that at last there will be a semblance of a square deal which will warrant active participation on their part in China's development.

"Take warning by the cart ahead," to quote an old Chinese proverb, has been taken to heart by the American manufacturers, and with the following exposition of the real causes before him, he can determine whether it will profit him to turn out of the rut, and seek a new road towards the goal of commercial participation, or turn back and leave the race to those who are in the lead.

The "Open Door" doctrine had its inception in 1898 through the desire of Great Britain to counteract the forces making for the disintegration of the Chinese Empire, a situation menacing her trade supremacy and political advantages arising out of the occupation of Hongkong. America, at that time occupied with the questions leading up to the war with Spain, manifested little interest in the Far Eastern situation and although her statesmen readily indorsed the doctrine advanced by Great Britain, it was not until the termination of the war and the acquisition of the Philippines which made her

an Oriental power, that America really awoke to the momentous trend of events on the mainland of Asia. In the short space of a year or so, while her attention was diverted by the Spanish war, the Open Door doctrine, originally advocated by Great Britain, had been superseded throughout Europe by that of the "Sphere of Influence" policy with partition as the probable fate in store for the ancient Empire. The various agreements entered into at that time between the powers had for their foundation the recognition of preponderating rights of the contracting parties within their respective spheres of influence.

The partition of China was openly discussed and many maps delineating the areas or provinces apportioned to the various powers were published throughout the world.

The menace to the trade expansion of America involved in the acceptance of the sphere of influence doctrine, with the specter of dismemberment always in the background, led the American Secretary of State to revive the Open Door policy, and advocate its acceptance by the chancelleries of Europe. The Communication directed by Secretary Hay to Count von Bulow, the German Minister for Foreign Affairs, on September 6th, 1899,



THE HIGH OFFICIALS OF CHINA

Rear Row Standing.—From Left to Right: Prince PA;; Son of Prince NA; Duke LIN of the Imperial Guards; Prince TSAI-FU of the Imperial Guards; H. E. YIN CHANG, Minister of War; H. E. SHOU HSUN, Vice Minister of War; Admiral TAN, Vice Minister of the Navy; Prince TSAI JU, President of the War College;
Front Row Seated.—Prince KALA CHIN; Prince TSAI TAO;; Prince YULANG; Prince NA; Prince SU; Duke TSAI-TZE, Minister of Finance; Prince TSAI HSUN;; H. E. NATUNG, and V. P. of the Cabinet; H. E. HSU SHIH CHANG, 1st V. P. of the Cabinet; H. E. THE KUNG-PAO SHENG, Minister of Posts and Communications; H. E. TSOU CHIA-LAI, Acting Minister of Foreign Affairs;

was followed by the exchange of similar communications with the other Powers, and by March of 1900, the doctrine of the Open Door had been firmly established, giving equal facilities to the trade of all nations to participate in the development of China. While American industries ten years ago could hardly cope with the enormous development of the domestic market, far sighted statesmen could foresee the time when the limit of home development would be reached, and foreign markets would have to be cultivated. So it was from no altruistic motive that America stood forth at the critical stage in China's history, championed the Open Door, and induced the other powers to adhere to its principles. The adherence of the powers to the principles involved in the doctrine, although a distinct triumph to American diplomacy, at the same time solved the most critical situation in the history of China. The recognition of the doctrine by the great powers saved the Empire from partition, and guaranteed its integrity and neutrality. China was the real beneficiary, and her position among the nations of the world, for many years to come, will rest on the faithful adherence of the powers to the doctrine originally advanced by Great Britain and established by John Hay. If the law of Equal Opportunity be violated, China's end as a political entity would soon follow. The strictest compliance with its principles is imperative for the advance of the Empire under native rule, and the high Chinese authorities, if possessed of the slightest spark of patriotism, should bend every energy in enforcing its provisions. America, who made the Open Door possible, and so guaranteed the neutrality and integrity of the Empire, does not look for gratitude in return, but American manufacturers do ask for and have the right to expect that China will accord them fair play or a "fair field and no favor" in the awarding of tenders and contracts for materials.

If the American policy towards China is founded on trade and receives the support of the country because of that feature, then it is clear that if trade results are not forthcoming, and American products are repeatedly discriminated against by corrupt or indifferent Chinese officials, the manufacturers will retire disgusted from the field, and the policy of the Government fail for lack of support. American sentiment and sympathy has been largely instrumental in guiding China through her difficulties of the past few years, and public opinion has endorsed the Administration because of hopes that tangible commercial results would follow. The American manufacturer, however, has become somewhat sceptical of securing these results, as time after time he has experienced rejection of his tenders, which although lowest in price, on an even specification, have been refused on the ground of inferiority by some Chinese official acting under the advice of prejudiced counsellors. Time after time has he witnessed the flouting of the Open Door doctrine, and the cynical violation of the various railway loan agreements by the Chinese officials, so it is but natural that he has become hardened and indifferent to the promises of fair play. And with good cause and reason, for there is not a railway loan agreement entered into by China with other nations that has not been grossly disregarded and the provisions of fair play ignored.

In the absence of any specific railway laws, franchises, or charters for the various loan-built roads of China, the Loan Agreement becomes the fundamental law of the line, during the life of the loan. The provisions of these agreements are such that the principle of equal opportunity for all nations in supplying materials has been recognized, but have been deliberately disregarded in favor of special interests allied with the financial concerns furnishing the loan. The argument may be advanced that nations furnishing the funds should receive the preference in supplying materials, but, if so, then it should have been speci-

fically stated in the loan agreement, and no grounds for complaint or censure could then arise from other interests. I propose to prove conclusively by a résumé of the various agreements that the spirit of fair play, or the principles underlying the Open Door doctrine, incorporated in foreign railway loan agreements, has been contemptuously ignored and rejected by the country whose political independence hinges on its faithful application.

Peking-Newchwang Loan Agreement.—We will first take up and study the provisions of the Peking-Newchwang Loan Agreement, which for forty-five years is the law governing the operation of the Imperial Railways of North China.

A careful perusal of this document fails to reveal any provision for the purchase of materials, leaving it to be presumed that they will be furnished by the parties advancing the funds, or purchased in the open market. This oversight was, however, subsequently corrected in the Additional Agreement of April 29, 1902, when the line was turned over to the Chinese Government by the British military authorities after the Boxer troubles.

Clause 2 of this document reads:—

"ALL ROLLING STOCK, MATERIALS, ETC., OBTAINED FROM FOREIGN COUNTRIES FOR THE USE OF THE RAILWAYS SHALL AS FAR AS POSSIBLE BE PURCHASED BY MEANS OF PUBLIC TENDERS."

This is specific, and admits of no misinterpretation. It does not give preference to the materials of any one nation, but clearly implies that they shall be obtained from foreign countries.

If faithfully adhered to, tenders for materials would be publicly invited in Tientsin, or Shan hai, and the materials of all countries given an equal opportunity. But we find that this clause was ignored immediately after the signing of the agreement, and to prevent that free competition which would have allowed independent British, American or Continental manufacturers to tender, an arrangement was entered into whereby all materials were ordered through a firm in London acting as purchasing agents. This firm received for a long time a purchasing commission of 5%, and the British Chief Engineer of the railway drew up a list of makers approved by himself from whom materials could be purchased. The feature of this approved list, as far as car parts were concerned, was the absence of American makers. This purchasing arrangement, we understand, is still in force in a modified form.

For a more thorough understanding of the situation in the north, it is necessary to revert to the time when Mr. C. Kinder, the retired Chief Engineer, initiated the policy of building railway cars at the Tongshan Shops. In the absence of any definite standards his first step was to design those which could be most profitably and economically applied to the I. R. N. C., and to this end car plans for every variety of service were designed. As was quite natural, the British engineer at the outset adopted the British standards as regards diameter of wheels and other features at variance with American practice, which made it impossible for American car manufacturers to compete. And then by naming a selected list of British makers approved by himself, and placing all orders through the London purchasing agent, the door of equal opportunity opened by Clause 2 of the Additional Agreement was slammed to in the face of America.

Even this violation could be readily overlooked and the right conceded to China to give preference to British materials, as long as the purchases are for the maintenance of the lines controlled by the Loan Agreement. But it appears that a non-technical Chinese Railway Board in Peking, approved of and adopted the I. R. N. C. standards for use on all the roads in China, and the ruling is still in force.

From the manufacture of cars at the Tongshan Works for the use of the I. R. N. C. it was only a short step to the manufacture

of cars for other railways in China, and the Chinese officials eagerly approved of this radical step. To the credit of Mr. Kinder I have been informed that he fully realized the

violation of the spirit of fair play involved in this step and endeavored to dissuade the Chinese authorities from the scheme, but was over-ruled. And so under the provisions

H. E. YIN-CHANG,
Minister of W. T.

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TSAI FU,
Imperial Guards.

H. I. H. Prince
TSAI-HSUN,
Minister of the Navy.

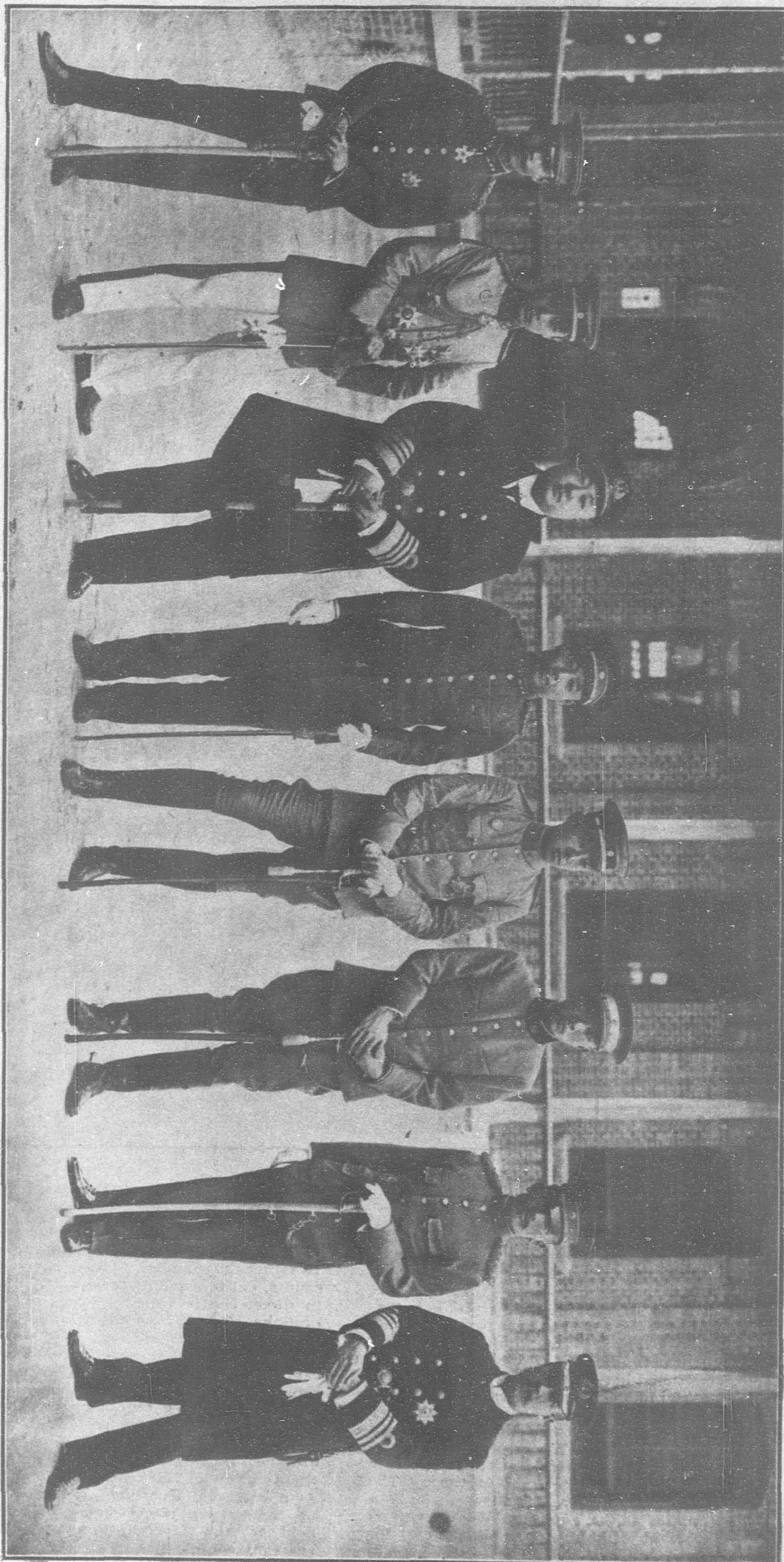
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TSAI JU, President of the
Nobles (War) College.

H. I. H. Prince
TSAI TAO, Commanding
the Imperial Guards.

H. H. Duke
LIN, Imperial
Guards.

H. H. Prince PA,
a Mongol Prince
of the First Order.

H. E. Admiral TAN,
Vice Minister of
the Navy.





From His Latest Photograph

H. I. H. THE PRINCE OF CHING, PREMIER OF CHINA

of a Loan Agreement, which gives a British Corporation a lien on the line for 45 years, with a British Chief Engineer in charge, but with a specific clause for fair play, Chinese officials in their desire for profits entered into a program that, if permitted full scope for development, would end in the monopolization of the Chinese car market for a restricted list of approved British makers under cover of an official Chinese undertaking.

Under this arrangement a large number of cars for other lines in China have been built at the Tongshan Works, and this feature is receiving the careful attention of the Chinese officials at the present time. The point may be advanced that it is only a small matter as the Tongshan Works with its present plant cannot supply all the cars for other roads in China and therefore the menace

to foreign manufacturers is more imaginary than real. But this is only begging the question. It is not the number of cars now made that counts, but the establishment of the principle in direct contravention to the basic features of the Open Door doctrine. The principle once admitted the way is open for the expansion of the shops to a point where car building for the Chinese Railways would soon become a monopoly and under the present system of purchases, this means a monopoly for a restricted list of approved British makers from whom all materials are ordered. If Tongshan standards are to prevail, the independent British maker together with American and Continental firms may fold up their tents, return home, and leave the field to the favored firms for thirty-four years to come.

If the principle underlying the operation of the Tongshan Works is permitted to stand without protest, their extension to meet the growing demands of the Empire will follow as a natural sequence, and instead of a few hundred cars built for other roads in China in the last few years, the number will be doubled in a very short time. It is safe to assume that the volume of car business undertaken for outside railways during the last few years reached \$1,000,000 the materials for which were purchased without any regard for Clause 2 of the agreement. This amount of business, placed direct with the approved maker through the London purchasing agent, has been lost to firms in China. Aside from the evasion of the Open Door doctrine, the system is contrary to all recognized canons controlling



TWO OF THE CHINESE PRINCES, WHO LINE FOR THE THRONE, SET ASIDE FOR THE SON OF PRINCE CHUN
H. I. H. THE PRINCE OF KUNG
Grandson of the Great Chinese Statesman of the same name.



H. I. H. PRINCE CHUN
H. I. H. PRINCE PU-HUN
Minister of Agriculture, Industry and Commerce.

the placing of Government orders. The first duty of a government is to patronize the firms in its own country whose taxes are contributed to its maintenance. Every other country recognizes this principle and government orders are placed through firms whose duties and other taxes help to swell the national treasury receipts. Notwithstanding that all leading European and American manufacturers are represented in China by firms contributing to the support of the Chinese Government, they are ignored and passed over, in favor of a purchasing agent in London who has no direct interest in the country. When it is considered that as a general rule all agency agreements between manufacturer and representative give the latter a commission on all purchases for his territory whether placed through him or otherwise, the practice of going over their heads in the hope of receiving better prices is unsound. The purchasing agent in London or elsewhere cannot hope to secure a better price than the manufacturer's direct representative on the ground, so the result is that the Chinese Government in many cases really pays two commissions, one to the purchasing agent, and one to the China representative of the manufacturer. Patronizing the firms who contribute their taxes, duties, likin, and other extortionate demands of Chinese officials, is only legitimate reciprocity, and aside from the spirit of fair play and equity involved, it would save an extra commission to the Chinese treasury.

The operation of the Tongshan Works as a part of the Imperial Railways of North China, under the provisions of the British Loan Agreement, has created a very subtle commercial situation. The works are run as a Chinese official enterprise, and under cover of this, the agents of the restricted list of approved makers, who furnish the materials for construction of cars and locomotives, are enabled to push the sale of their specialties with Chinese private railways. Car building in China is a misnomer and is really only the assembling of parts ordered from abroad. Under any condition the car body would be constructed in China. It is true that at Tongshan the underframes and trucks are also made at the works, but wheels and axles, air-brakes, couplers, and other accessories are ordered from abroad.



TAOTAI WAN BING CHUN (B. C. Ward)
Secretary to H. E. Tuan Fang, Educated in America



H. E. TUAN FANG
Director-General of the Imperial Hukuang Railways.

When the agent of the approved maker solicits business direct from the Chinese private railway director and is unable to secure the order, as a last resort, he recommends the purchase of cars from the Tongshan Works, knowing that he will secure the same profit in a round about way.

I have before me the report and estimate submitted to the Director-General of a private Chinese railway company by a leading British Consulting Engineer. In his summary of costs, he refers the Chinese Director to the Shanhaikwan Works of the I. R. N. C. for bridges, and to the Tongshan Shops for cars and locomotives, where he urges they can be purchased cheaper than they can be imported, and at the same time built under Mr. Kinder's standards and specifications in conformity with the ruling of the Railway Board. As only the materials of approved British makers enter into the manufacture of bridges, cars and engines at the above works, the Engineer could safely recommend a prospective Chinese customer to Tongshan knowing that his friends would secure the profits from the order. And under cover of patronizing a Chinese Government undertaking, he made a strong bid for the business.

And we find that owing to the keen competition for freight and passenger cars on the southern section of the Tientsin-Pukow Railway,

resulting in the placing of many orders to Continental and independent British makers, at prices lower than the favored makers could furnish them, some 100 cars were ordered from the Tongshan Works. In addition nearly all the Kalgan-rolling stock—over two hundred cars—were built at the Tongshan Works. This is a purely Chinese railway, though it may come under the terms of Peking-Newchwang Loan Agreement as a branch or extension of the I. R. N. C. if the point is raised.

American and Continental car manufacturers were excluded from any participation in the supply of cars for this line, owing to the state of affairs which threw all the orders for materials through a London purchasing agent, in direct contravention of Clause 2 of the Additional Agreement. Here the Chinese officials exercised full control over the placing of orders and many American locomotives and other materials were purchased.

The situation herein revealed points to one inevitable conclusion. If Chinese officials continue to manufacture cars at Tongshan, for all the railways in the Empire, and confine their purchases to an approved list through a purchasing agent in London, American car manufacturers can retire from the field.

If China desires to expand the Tongshan Works and enter into the manufacture of cars for roads outside the Peking-Newchwang Loan Agreement, then it is only fair that the Works be separated from the administration of the I. R. N. C. and operated as an independent national enterprise, and the door of equal opportunity opened to the manufacturers of all nations, as provided for in Clause 2 of the Additional Agreement. Otherwise the railway car market in China will be slowly closed to all but the restricted list of British makers.

THE TIENSIN-PUKOW RAILWAY.

German Section.—Clause 18, of the Tientsin-Pukow Railway Loan Agreement, reads:—

"For all important purchases of railway materials tenders shall be called for by the Managing Director; and the Banks and Syndicate as Agents shall purchase the materials required on the terms most advantageous to the Railway, and shall charge the original cost of same with a commission of five per cent. It is understood that no orders for materials shall be executed or any expenditure incurred without due authorization by the Managing Director.

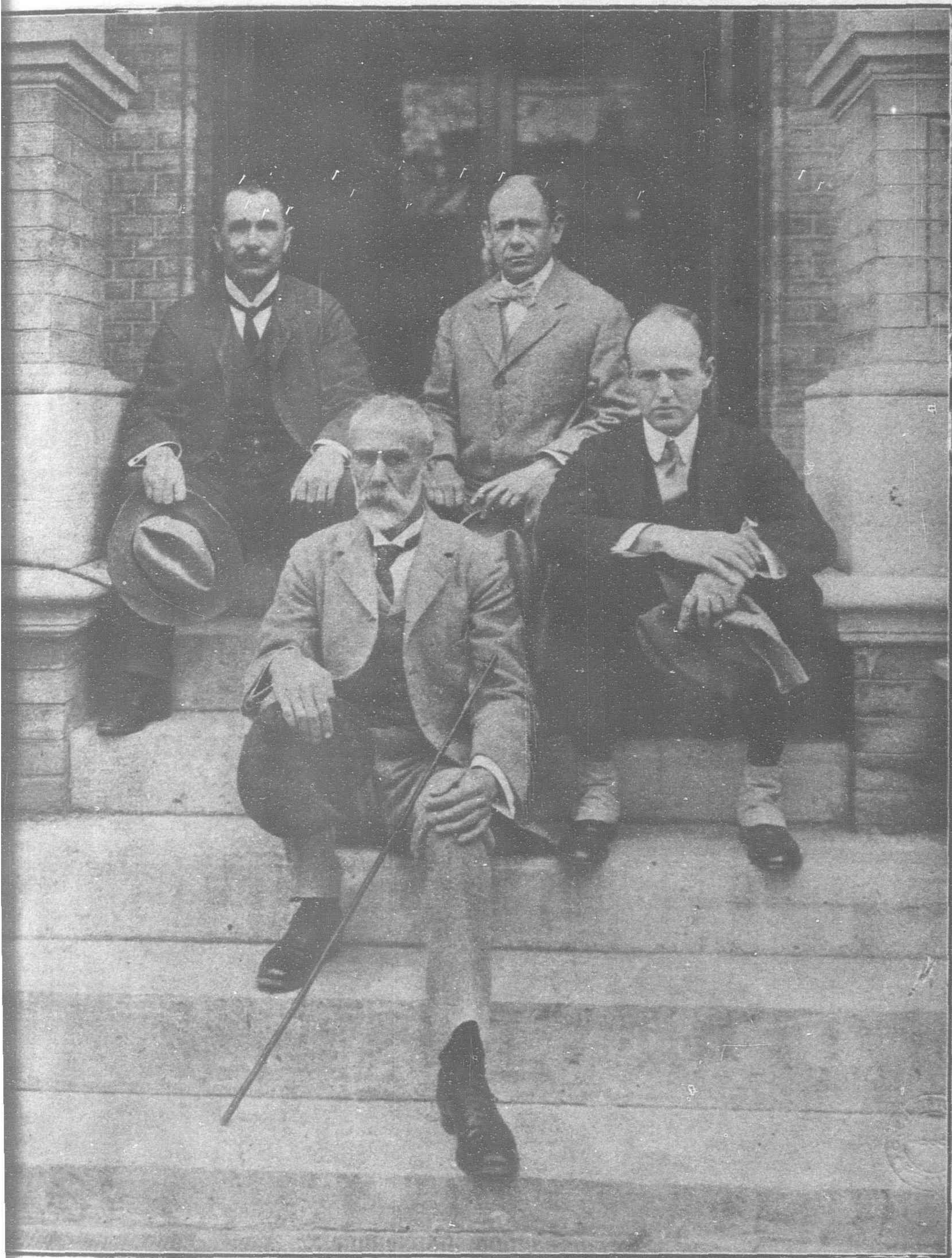
"The Railway Administration shall have the right to reject on arrival in China materials which do not come up to specifications. At equal rates and qualities goods of German and British manufacture shall be given preference over other goods of foreign origin for the northern and southern sections respectively. The Railway Administration reserves the right, while paying the above stipulated commission to the said Agents in respect of all purchases of foreign materials, to avail itself of the services of other Agents in China or abroad should it see fit to do so.

"No commission shall be paid to the Agents except as above provided; but it is understood that the Railway Administration shall provide out of Railway funds for the remuneration of Consulting Engineers whenever their services are engaged.

"With a view to the encouragement of Chinese industries, preference will be given, at equal prices and qualities, over British, German or other foreign goods to Chinese materials, and goods manufactured in China. No commission will be paid on purchases of such materials and goods.

"AT EQUAL RATES AND QUALITIES GOODS OF GERMAN AND BRITISH MANUFACTURE SHALL BE GIVEN PREFERENCE OVER OTHER GOODS OF FOREIGN ORIGIN FOR THE NORTHERN AND SOUTHERN SECTIONS RESPECTIVELY."

This Clause implies that for all important purchases tenders shall be invited open to the manufacturers of all countries, and if American or other goods are equal in quality, i. e., according to specification, and lower in price, provision is made for their acceptance. Otherwise,



THE PEKING REPRESENTATIVES OF THE FOUR FINANCIAL GROUPS

H. CORDES E. G. HILLIER M. CASENAVE W. D. STRAIGHT
(Deutsch-Asiatische Bank.) (Hongkong & Shanghai Bank.) (Banque de l'Indo-Chine) (American Group.)

German and British manufacturers could raise their prices without fear of competition. Nothing could be more to the point. While British and German interests are fully protected, the Clause opens the door of equal opportunity to all and reflects a spirit of fair play, which if honestly and faithfully applied by the Chinese authorities would result in a fair share of orders for materials being placed in America at terms advantageous to China.

On the German section, it appears that the Clause was interpreted to mean that German goods should have the preference regardless of price or quality, and all orders for materials went automatically through the purchasing agents to their friends in Germany. The implied spirit of the Open Door underlying the clause was ignored and foreign manufacturers other than German had no opportunity to tender or compete. Had equal opportunity been granted to all, the cost of materials undoubtedly would have been greatly lowered.

The natural impulse is to lay the blame for this violation of the Agreement to the door of the Germans, as they were the sole beneficiaries, but a close study of the loan agreement and the contract of the Engineer reveals that the real transgressor is the Chinese Director-General and his subordinates in charge of the two sections. The Managing Director had full control over purchases and no expenditure could be incurred without his authorization. The Chief Engineer was entirely under his orders, and had no responsibility except in the technical supervision of construction.

By no stretch of the imagination can the Chinese hide behind the Germans and lay the blame on the German Chief Engineer.

Clause 5 of the contract of the latter with the Chinese government stipulates that "he shall obey the orders of the Director General or other superiors, and pay proper respect to them as their several positions demand."

"The Director-General has the power to cause

this Agreement to become null and void at any time."

And the contract furthermore stipulates that on the day of the resignation or dismissal of the Engineer-in-Chief his salary ceases and he shall be paid the number of days he actually worked, if he has not rendered a full month's service.

In other words the Chinese Director General or the Managing Directors have full and absolute control over the Engineer-in-Chief, even to the point of dismissal without notice. And yet with this power in their hand, they permitted all orders for the Northern Section to be placed in Germany without any regard to the provisions of the Loan Agreement conceding fair play to all. The Germans cannot be criticized for their share in influencing and abiding by a practice which benefited them exclusively, as before the world they are absolved by the terms of the agreement and engineers' contract which fixes the sole responsibility on the high Chinese officials.

TIENTSIN-PUKOW RAILWAY.

British Section.—The same Loan Agreement, quoted above, applies to the Southern or British section of this road, and the contract between the Chinese Government and the British Engineer-in-Chief is identical with the one signed by the German Engineer.

During the first year of construction the Chinese Managing Director of the Southern Section (Taotai K. S. Low) interpreted the Loan Agreement as giving a fair field to the materials of all nations, and many awards were made to Continental and American manufacturers against the advice of the British Chief Engineer. Taotai Low's attitude in the advertising and awarding of tenders was the nearest approach to a "square deal" recorded in the history of Chinese loan-built railways, but even with his acknowledged general record for fairness there were many instances where he was influenced by the Chief Engineer to ignore the provisions of the Loan Agreement and award the orders for materials to British firms when American tenders were lower on the same specification.

Tenders for eight locomotives duly advertised in advance were opened on the 29th of June, 1909, and although the American tenders were lowest the contract for six was awarded to a British manufacturer, and only two ordered from the lowest bidder. As this transaction is typical of the practice and spirit of awarding tenders on loan built roads, regardless of the clause which gives equal opportunity to all, a copy of the official letter of the British Chief Engineer to his Chinese superior is herewith reproduced, with the names of the makers omitted.

Chief Engineer's Office,
Nanking, 29th June, 1909.

No. 1761.
The Managing Director
Tientsin-Pukow Railway, Southern Section.
DEAR SIR:—

Tenders for Indent No. 51.

These tenders were opened this morning, and the results are very favorable for the Railway, the prices quoted by first class firm being much lower than I expected.

The lowest tenders are from America and Continental makers, for their patterns and specifications. There is, however, very little difference between the lowest tenders and those of really first class makers.

I should not under any circumstances recommend the acceptance of tenders from Belgium or German makers. Mr. Sandberg writes me most strongly about the poor quality of materials used for rolling stock in both countries. In the present case, the difference in price between the Continental makers, and the best British and American Locomotives is so small, that there is no temptation to accept the inferior article.

Of the British makers, the lowest tender for first class maker, is that for whom..... have tendered. The price delivered at Pukow, according to the terms of our advertisement being £3-143 0s. 0d. Payment 15 days after delivery.

Of American manufactured locomotives, two firms have submitted tenders which agree with our specification: Messrs..... tender for locomotives which are apparently according to our specification, though no detailed specification is given. Their price is £3,127 0s. 0d.

Messrs..... tender for their price is £3,138 0s. 0d.

Between the prices quoted in these three tenders, there is only a total difference of £16 0s. 0d. and I have no hesitation in stating that the British Locomotives are much the cheapest at the price.

Most of the Locomotives of the Imperial Railways of North China, have been built by the British Company, and they have given every satisfaction. The

Imperial Railways of North China have also had considerable experience with locomotives built by an American Company, and the experience has been greatly in favour of the British Locomotives.

The American locomotives spending a great deal of time in the shops under repairs, and costing much more for running expenses than the British ones. I have asked Mr. Alston to give me a report on this matter, which I shall annex.

As a rule there is a very considerable difference in price between British and American Locomotives, American Locomotives generally being much cheaper. Where the prices are approximately equal, as in this instance, there can I think be no question that the British are the best bargain, and that even apart from the provision of the Loan Agreement, it would pay us best to accept them.

Yours truly,
(Sgd.) T. W. T. TUCKEY.

The above communication reveals the following facts:—

First, that the American manufactured locomotives agreed with the railway specification and the price quoted was £16,000 lower than the British engine. Consequently all things being equal, the American manufacturer under the terms of the Loan Agreement, should have been awarded the contract. Particular attention is invited to the closing words of the above letter, "*Even apart from the provision of the Loan Agreement it would pay us best to accept them.*" This corroborates what I have always contended and indicates that Chinese officials and foreign engineers recognize the true meaning of the clause which concedes to other countries the right to expect the acceptance of their tenders at equal quality and lower price, and which only gives the nation furnishing the loan preference when all things are equal. If materials from the country furnishing the loan were to be exclusively employed, the banks could readily sacrifice their commission in floating the loan and advance the funds to China at par, with the assurance that their industrial allies would split the excessive profits with them from the monopoly in selling the materials.

The above communication also reveals the methods employed in discrediting American goods, in favor of other national interests. It demonstrates the fact that the British Chief Engineer was cognizant of the infraction of the Loan Agreement, and the American makers lost the order on the Engineer's report that their locomotives were inferior.

Further evidence in support of my argument is herewith presented by the following extracts from an official communication of the same Engineer-in-Chief to his Managing Director concerning the tenders for 250 freight cars, dated July 1st, 1909.

No. 1772.
Chief Engineer's Office,
Nanking, 1st July, 1909.

The Managing Director,
Tientsin-Pukow Railway, Southern Section,
Nanking.

DEAR SIR:—
Indent No. 50.

I have gone carefully through the tenders for rolling stock under the above Indent. Owing to the great number of tenderers, and the variety of offers, the difficulty of classification has been considerable. I am now able to enclose lists giving the offers in each case, in order of price, commencing with the lowest.***

My own experience of Belgian made rolling stock is limited to the cars of the Peking Hankow Railway, which are certainly very rough, and which gave much trouble, when running over the Northern Railway lines. Mr. Sandberg, who has a world wide experience, has, however repeatedly warned me against Belgian and German rolling stock. In Mr. Sandberg's letter dated the 20th April last, he wrote as follows:

"I am receiving no end of applications from all over Europe and America, so the competition will be too great, and you will no doubt receive tenders with very low prices and very poor quality. I quite see that you must be forced by your Directors to act in this way. They will all suffer and we too, if the tenders are not judiciously selected. Take for instance the rolling stock in Belgium and Germany, the former particularly, and even in America, it is as poor as possible, and while all the buying there is going on by advertisement like yours, and their own careful inspection, which clearly shows that it cannot be done, and Mr. Kinder's system for the I. R. N. C. of inviting only the best makers approved by himself was no doubt the best way."

You will note that Mr. Sandberg's opinion as to the quality of Belgium rolling stock is very strong indeed, and after such an opinion, I cannot possibly recommend it.****

The prices are very favourable indeed, and far lower than I anticipated, for first quality cars.

Yours truly,
(Sgd.) T. W. T. TUCKEY.

The above letter is highly interesting and not only corroborates my statements in regard to the unfair awarding of tenders on the Tientsin-Pukow line, but also the conditions underlying the purchasing arrangement for the Imperial



H. I. H. Prince Su, Minister of the Interior. One of the Eight Princely Families.

Railways of North China. Particular attention is invited to the advice of Mr. Sandberg, the London Consulting Engineer, about purchasing Belgium and German rolling stock and even American material, and his remarks concerning Mr. Kinder's system of inviting only the best makers approved by himself is elucidating and convincing.

No comment is necessary in the face of such conclusive evidence.

In April of last year, after the removal of Taotai Low from the post of Managing Director of the Southern Section of the Tientsin-Pukow Railway, tenders were invited for the supply of 12 locomotives. Under Taotai Low's administration there was no difficulty for a reputable firm to secure the necessary specifications and tenders, but under his successor all kinds of

difficulties have beset the path of those who desire to compete.

As an instance we can cite the experience of one Anglo-American firm, representing a well known American locomotive manufacturer. They applied for the specifications immediately after the appearance of the advertisement, and sent in the necessary fee (\$25.00). In return they were furnished a blue print of an engine. They sent again for the specification to the authorized representative of the railway in Shanghai, and the reply came back that they had not yet arrived from Nanking. They sent again in due course and were then informed that there was no specification, the blue print being the only thing issued. Realizing that they were being discriminated against, the manager of the firm went in person and de-



H. E. NA TUNG, 2nd Vice President of the Cabinet.

manded the proper specification, as a result of which a solitary copy was unearthed and he was permitted to copy it. The tenders were duly submitted and opened and the representative of the American manufacturer was far the lowest in price.

The American manufacturer bid strictly to specification, the engines to be built under the supervision of the Inspecting Engineer in America, yet although they were nearly £300 lower in price on each engine, the contract was awarded to the British makers. In the face of this great variance in prices in favor of the American locomotives the Managing Director refused to take the responsibility in awarding the tender and referred it to his superiors in Peking, who decided in favor of the British maker. The explanation given at the time was to the effect that the American manufac-

turer did not have a technical representative on the ground to explain the tender. The fact was overlooked that an engineer of the American Company was at Peking at that very time superintending the erection of locomotives supplied by his firm to the Peking Kalgan line, and who could have readily answered all necessary questions. *The lame explanation offered by the Chinese to justify their violation of the spirit of fair play, did not extend to the British makers, who were in the same boat as the American makers, as they did not have a technical representative in China.*

This discrimination cost the Chinese Government just \$18,000.00 gold, but the damage to its prestige cannot be reckoned in dollars and cents. And for the last year there has been hardly a tender awarded on this line not open to criticism and the charge of unfairness, and

many reputable firms now refuse to tender on materials for this line, knowing full well that they cannot expect equitable treatment.

The Shanghai Nanking Railway.—The Loan Agreement controlling the construction and operation of this line is typical of the spirit of fair play and adherence to the principles of the Open Door doctrine, by the British Government in conceding its support to the financial corporation advancing the funds, and at the same time the evasion of this agreement stands forth as a shining example of the spirit characterizing those who interpreted it according to their own interests, and in which they received the tacit approval of the high Chinese authorities.

Article 9 of the Shanghai-Nanking Loan Agreement, signed at Shanghai the 9th of July 1903, reads:—

"9.—As remuneration for superintendence and services the Corporation shall receive 5 per cent. on the entire cost of all materials purchased for the railway.

"It is agreed that all materials required for the railway shall be purchased in the open market at the lowest price obtainable, but it is understood that all such materials shall be of good and satisfactory quality. Invoice and inspector's certificates are to be submitted to the Chinese Administration.

"With a view to encouraging Chinese industries Chinese materials are to be preferred, as also the products of the Haoyang Iron Works, provided price and quality are suitable.

"No commission will be allowed to the Corporation on the purchase of materials except as herein provided. All trade discounts or rebates, if any, are to go to the construction account."

This is all. It is specific, and admits of no misunderstanding. It is a clean cut provision for fair play and the open door for materials of all nations, for no where in the other clauses of the agreement is preference to British materials specified.

It will be readily conceded by American and Continental manufacturers in a friendly spirit that although British materials were not given preference in the agreement, the fact that a British Corporation furnished the funds and controlled the drawing of plans and specifications and superintended the purchases, entitled the products of Great Britain to greater consideration. This, however, does not alter the ethics of the case. The Loan Agreement is the fundamental law of the line during the life of the loan, and should be adhered to. If it were intended that British material should be exclusively employed, it should have been so stated in the bond, and other interests would have nothing to complain of.

We find however that, notwithstanding the specific agreement that all materials should be purchased in the open market at the lowest price obtainable, the purchases were made exclusively in London, without reference to the lowest price or open tender.

The result of this method was to make the road more costly.

It is of course difficult to point to any concrete instances in proof of this, but the following evidence from the highest British authority in China, is sufficient to emphasize the point. At a meeting of the Hongkong Legislative Council, held May 14th 1909, Sir Frederick Lugard, Governor of Hongkong, in defending the high costs of the Kowloon-Canton Railway showed where the original estimates were too low and the reasons why the costs had ascended to the enormous figure of nearly \$250,000 gold per mile. He also showed where over-estimates had been made and said:—

"I have dealt in considerable detail now with the items that involve excesses in the estimates. There remain those under which large savings are shown. Ballast and permanent way show an estimated saving of \$51,700, rolling stock \$82,400."

"I may add, too, that the carriages will cost something less than half what had been estimated, for the amount placed on the estimates had been calculated on the basis of carriages for the Shanghai Railway, and we find by adopting a less expensive model we can reduce the cost from about \$2,000 per carriage to \$1,000."

This direct statement from the Governor of Hongkong is convincing. The same Consulting Engineers who directed the construction of the Shanghai-Nanking Railway which cost China \$75,000 (Gold) per mile, were also retained to superintend the 22 mile British section of the Kowloon-Canton Railway which cost the Colony the enormous outlay of nearly \$250,000 gold per mile and a member of the same firm has again been appointed by the Chinese Government as Chief Engineer of the British section of the Hukwang Lines.

This appointment is a complete vindication of Mr. Collinson's record in the construction of the Shanghai-Nanking Railway and must be accepted by the world as an apology on the



H. I. H. Prince YU LANG, Chief of the General Staff.

part of the high Chinese authorities for all the abuse and criticisms heaped on him the last few years. By reinstating him in the important position of Engineer-in-Chief of the British Section of the Hukwang Railway, China admits to the world that the charges against Mr. Collinson were groundless; accepts all responsibility for the extravagance, and endorses the methods employed in awarding contracts for materials in violation of the Agreement. If the Chinese Officials acting with Mr. Collinson are to interpret the Hukwang loan in the same spirit as the Shanghai-Nanking Agreement, then American and other manufacturers may well "take warning from the cart ahead" and forego hope of equal participation in the supply of materials as provided for in the Loan and Parts Agreements.

Had open tenders been invited, and the cars and other material for the Shanghai-Nanking Railway purchased in the open market at the lowest price obtainable, on a fair specification, the saving to the Chinese Government would have been considerable. If \$82,000 Mex. (say \$40,000 gold) were saved in the rolling stock for a little 22 mile line, it is fair to assume that a proportionate saving would have been made on a 200 mile line.

Had all the materials for the Shanghai-Nanking Railway been purchased on the open

market as provided for by the Loan Agreement, and the tenders advertised in Shanghai, and American and Continental firms permitted to compete, China would have had just as good a line at much less cost. Instead of operating at a loss, owing to the high capitalization, the line would now be paying its fixed charges or more. The failure of China to insist on her rights and demand compliance with the express terms of the agreement has cost her dear. She is still paying for it.

The Hukwang Railways.—And now we may consider the clauses of the Hukwang Railway Loan Agreement, the official text of which is printed in full in the supplement to this issue of THE FAR EASTERN REVIEW. The history of the negotiations leading up to and surrounding the final acceptance of this loan, and the many bitter international jealousies engendered in consequence is still fresh in the minds of our readers and further agitation of the subject is to be deprecated. However, we desire to emphasize one point for the benefit of American manufacturers and their agents in China. The negotiations between the four financial groups had dragged along for several months owing to the refusal of the British and German groups to permit any change in the wording of Clause 18 of the original agree-



H. H. The Prince of SHUN CHENG, High Commissioner for Opium Suppression.

ment, which named the British and Chinese Corporation and the Deutsch-Asiatische Bank as purchasing agents for the lines.

The representative of the American Group, having full knowledge of the bitter national prejudice actuating European engineers in influencing the awarding of tenders, and with the record of the British & Chinese Corporation and the Deutsch-Asiatische Bank in placing orders for materials regardless of the provisions of the Loan Agreements, endeavored to secure American participation in the appointment of a purchasing agent to provide a square deal for American manufacturers. This point was stubbornly contested for months, the British and German Groups refusing to admit American participation or relinquish their advantage. To terminate a trying situation, the American representative finally waived the right to appoint an American purchasing agent, on the condition that the British and German purchasing agents write an official letter obligating themselves to an impartial awarding of tenders. In other words the American representative placed the British & Chinese Corporation and the Deutsch-Asiatische Bank on their honor to discharge their duties impartially.

For a fuller understanding of this question, Article XVIII of the Hukwang Loan Agreement follows:—

For the Hupei Hunan section of the Canton-Hankow railway line, and the Hupei section of the Szechuan-Hankow railway line respectively (a) The British & Chinese Corporation, Limited and (b) the Deutsch-Asiatische Bank will act as Agents of the Railway Administration during construction for the purchase of all materials, plant and goods required to be imported from abroad. From this category rails and their accessories are excepted; for the purchase of which the Ministry of Posts and Communications has memorialized the Throne recommending that they should be manufactured and supplied by the Hanyang Iron Works. Their price will be settled by the Ministry of Posts and Communications with the Hanyang Iron Works, after comparison with the current quotations for rails purchased by other lines from Europe or America. No delay will be allowed, and it is understood that if the Hanyang Iron Works are unable to supply the requirements of the lines in question in such manner as to insure uninterrupted construction, the Purchasing Agents will be instructed to procure from abroad the additional supplies required. For all important purchases of materials tenders shall be called for by the Director General or the Managing Director concerned; in the case of all tenders, indents and orders for the importation of goods and materials from abroad, the said Agents shall purchase the materials required on the terms most advantageous to the railways, and shall charge the original net cost of the same, plus a commission of five per cent (5%). It is understood that no orders for materials shall be executed or any expenditure incurred without due authorization by the Managing Director concerned.

In return for payment of commission as above stated the British & Chinese Corporation, Limited, and the Deutsch-Asiatische Bank as Agents for the respective railway lines, shall be prepared to superintend the purchase of all foreign materials required for their construction and equipment, which shall be purchased in the open market at the low-

est rate obtainable, it being understood that all such materials shall be of good and satisfactory quality and that the aforesaid Agents will avail themselves of the services of engineering experts to be selected by the Ministry of Posts and Communications for the inspection of such materials. The fees of these Inspectors shall be borne in equal shares by the Ministry of Posts and Communications and the Purchasing Agents. At equal rates and qualities goods of British, French, German and American manufacture shall be given impartial preference over other goods of foreign origin. The Railway Administration of the Ministry of Posts and Communications reserves the right, while paying the above stipulated commission to the said Agents in respect of all purchases of foreign materials, to avail itself of the services of other Agents in China, or abroad, should it see fit to do so.

The most favorable shipping and insurance rates are to be secured and statements thereof together with original invoices and Inspectors' certificates are to be submitted to the Director General and the Managing Director concerned; all return commissions and rebates of every description shall be credited to the railways and all purchases made by the Agents on behalf of the railways shall be supported by manufacturers' original invoices and Inspectors' certificates. No commission shall be paid to the Agents except as above provided; but it is understood that the Railway Administration shall provide out of railway funds for the remuneration of Consulting Engineers whenever their services are engaged.

With a view to the encouragement of Chinese industries, preference will be given, at equal prices and qualities, over British, French, German, American or other foreign goods to Chinese materials and goods manufactured in China, such cases being left to the decision, in consultation with the Engineers-in-Chief, of an Inspector appointed by the Ministry of Posts and Communications. No commission will be paid on purchases of such Chinese materials and goods.

It is understood and agreed that, after the construction of the lines is completed, the British & Chinese Corporation, Limited, and the Deutsch-Asiatische Bank will be given the preference for Agency business for the respective lines during the currency of the Loan, for the supply of foreign materials which the Railway Administration may require, on terms to be hereafter mutually agreed upon.

It will be seen that this concedes to the British and Chinese Corporation and the Deutsch-Asiatische Bank the exclusive purchasing rights for the entire system including the American section, on which they are allowed a purchasing commission of five per cent.

At the meeting held in Paris on May 23, 1910, between the representatives of the four groups, it was agreed:

"That the existing arrangements of Article 18 of the original Loan Agreement be allowed to stand provided that the two Purchasing Agents give to the French and American Groups a letter in the following terms, and provided moreover that said purchasing agents shall be bound to report as far as possible to any group requesting such information regarding the purchase of materials under the construction of the Director General in accordance with the provisions of the original Loan Agreement with accompanying despatch and the supplemental Loan Agreement."

"We beg to inform you that we have been appointed purchasing agents for the Hankow-Canton, Hankow-Szechuen railways in accordance with article 18 of the Hukwang Loan Agreement initiated on June 6th, 1909."

"In view of the terms of the said Loan Agreement with accompanying despatch and the agreement supplementary thereto providing for the admission to participation of the American Group and securing equal consideration for British, German, French and American materials and equal facilities for the receipt of tenders in the markets of the four countries, we beg to state that we will take all steps necessary to assure the above mentioned consideration for French, American materials and make all proper provision for the receipt of or an absolute basis of equality of tenders from British, German, French and American manufacturers."

Signed:

F. URBIG.
G. JAMIESON.
M. CASNAVE.
W. D. STRAIGHT.

At the same meeting it was furthermore agreed that all four groups should participate equally in the purchasing commission, the Deutsch-Asiatische Bank and the British & Chinese Corporation receiving one per cent as compensation for the actual services rendered, and the other four per cent to be equally divided between the four groups.

So apart from the provision of the Loan Agreement, there is a gentleman's compact that fair play will be observed.

The wording of the Loan Agreement, however, is somewhat ambiguous, and fails to define the precise methods to be followed. According to the agreement the British and Chinese Corporation and the Deutsch-Asiatische Bank are to act as agents for the purchase of all materials, plant and goods required to be



H. H. THE PRINCE OF CHUANG, One of the Eight Princely Families

imported from abroad, rails excepted, but for all important purchases of materials tenders shall be called for by the Director-General or the Managing Director concerned, and the said agents shall purchase the materials required on the terms most advantageous to the railways, charging the original net cost plus a commission of five per cent. However it is understood that no orders shall be executed or any expenditure incurred without due authorization by the Managing Director concerned.

What does this mean? If the Managing Director is to call for tenders on all important purchases, the tenderers will submit their prices, c. i. f. at Hankow, and the award will be made on the basis of this price, without reference to the purchasing agent.

If this is the meaning of the Clause, then the duties of the purchasing agent are superfluous and the designation is wrong, for they cannot intervene to secure more advantageous terms after the tenders have once been opened and awarded. If the payments are to be made through the British and Chinese Corporation and the Deutsch-Asiatische Bank, then their duties are those of a fiscal or disbursing agent, and the 5% purchasing commission is only another name for a bonus for handling the funds.

Although one paragraph expressly states that all tenders shall be called for by the Managing Director, and no orders shall be executed or expenditure incurred without his sanction, yet we find that the purchasing agents in return for the commission are to

superintend the purchase of all foreign materials, which shall be purchased in the open market at the lowest rate obtainable, and that at *equal rates and qualities* goods of British, French, German and American manufacture shall be given impartial preference over other goods of foreign origin, and the purchasing agents are to secure the most favorable shipping and insurance rate and all return commission, rebates, &c., shall be credited to the railways.

The phraseology of the clause is very much involved, and the only clear explanation seems to be that only for *important* purchases are tenders to be called for by the Managing Director, and all other orders are to go through the purchasing agents after due authorization from the Director.

The question naturally arises, what constitutes an important purchase, so that public tenders shall be invited? Is this confined to cars, locomotives, and bridges only, and are all other material classed as unimportant?

The most important order can be mutilated and divided into small parcels and placed direct through the purchasing agents. The value of accessory supplies for the construction of 1200 miles of railway is enormous, and if ordered in sufficient quantities would constitute an important order worthy of calling for tenders. If, however, these materials are to be ordered in small quantities at the whim of the Engineer, it is plain that the Director General will not have to call for tenders, and the goods will be purchased through the agents.

In this case what is the duty of the Purchasing Agent? The Loan Agreement provides that they shall purchase the goods in the open market at the lowest rate obtainable, and equal preference given to British, German, French and American makers, and in the Agreement signed in Paris, the British and German purchasing agents obligate themselves to give equal facilities for the receipt of tenders in the markets of the four countries.

This implies that in order to faithfully carry out their duties the British and German agents must also publicly advertise tenders for the various orders sent to them for execution.

If these orders are to be placed privately or by private tender, how are the various manufacturers to know whether they are receiving equitable treatment? If the British or German purchasing agents place these orders with their friends direct, of what value is the Paris agreement which calls on them to explain after the deal is closed?

There is only one honorable method to follow, and that lies in the timely advertising of all tenders so that all parties to the agreement will receive a fair and even chance, otherwise the agreement is not worth the paper it is written on.

In this connection the question may be asked, what is a purchasing agent? The commonly accepted definition is—one who purchases materials on a commission basis, and who is in honor obligated to give the best of his time, experience, knowledge of prices, etc., to the party engaging his services. He cannot in honor while acting as such at the same time act as a selling agent for any manufacturer and sell to his client, thus receiving a commission both ways. In America or Great Britain the duty of a purchasing agent is clearly defined and governed by a rigorous code of ethics, any deviation from which destroys confidence in his methods and ends his usefulness. A purchasing agent who has an intimate knowledge of prices, freights, exchange and other conditions, can purchase materials lower than his client and justify his five per cent commission. In America a 2½ per cent commission is considered adequate for such services. The purchasing agent has no entangling alliances with manufacturers, but serves his client by securing the lowest prices on an even specification by open competition.

The question of the duties of a purchasing agent in connection with Chinese railways has never been clearly defined, and each agent has apparently placed his own construction on its meaning. In the early days



H. I. H. Prince TSAI FU. General of the Imperial Guards.



THE SONS OF PRINCE CHING

H. I. H. Prince TSAI-CHEN, Ambassador of China to the Coronation of H. M. King George.
It is reported he will be appointed to a high post in the near future.

of the America-China Development Co., who held the original concession for the construction of the Canton-Hankow Railway, the firm of Wonham, Sanger & Bates of New York (then Wonham & Magor) was appointed purchasing agents for the line. The business code of morals under which they operated, compelled them to cancel all agency contracts with manufacturers they had represented for years, and to enter their new duties with a clean slate, and with no entangling commercial alliances to provoke suspicion and criticism. This is the correct and only attitude.

In nearly all the railway loan agreements entered into between the British and Chinese Corporation and Chinese Government, the Corporation has received the customary five per cent for superintending purchases, or in other words for acting as purchasing agents.

Invariably however the Corporation has delegated its powers as purchasing agent to a leading British mercantile firm who have superintended the purchasing of materials in China and elsewhere. This action has created a very delicate situation, for this firm actively represents many of the leading manufacturers of railway material.

Under the terms of previous Loan Agreements, the question had no special interest to American manufacturers, but under the terms of the Hukwang Loan Agreement, which admits American material on an equal footing with the other nations, and the fact that the purchasing agent is obligated to give a square deal to all, the duties of a purchasing agent should be clearly defined, especially as we are informed that the British and Chinese Corporation has again delegated its powers to the same firm. If this is the case, then we contend that the latter firm is debarred from acting as agents for the sale of materials to the lines embraced in the Hukwang Loan, and must confine its duties solely to the impartial awarding of orders to other firms. The Deutsch-Asiatische Bank also acting as purchasing agent has apparently no organization in China for the discharge of these duties, and all orders would be automatically placed with their friends in Germany. The situation demands some radical departure from the prevailing practice to avoid criticisms and misunderstandings.

Nearly all American and European manufacturers of railway supplies are represented in China by reputable firms, and we believe that the only solution to insure fair play to all interests is for the British and Chinese Corporation and the Deutsch-Asiatische Bank to employ a competent party with assistants to act for them, establish headquarters in Shanghai, and publicly invite tenders for the various orders for materials as they are required. Such a step would meet with the hearty approval and indorsement of all fair-minded merchants, and pave the way towards a better understanding and the establishment of mutual confidence.

With the duties of the foreign purchasing agents clearly defined, and the way paved for an impartial rendering of their services, there yet remains a difficult situation to improve before a square deal can be secured. Of what avail is the impartiality of the purchasing agent, or the Chinese Managing Director, if each Engineer is to draw up his own specifications for materials, according to his ideas of what is best and proper? The natural tendency of the engineer of a loan-built railway is to devise a specification on which only his particular friends can hope to tender with success. If American standards for bridges, and rails, are specified by the American Engineer-in-Chief, British or Continental materials cannot hope to compete, or if British sections for bridges and rails are specified, American and Continental makers are disbarred. If the engineer specifies a locomotive following purely British practice, the other makers are frozen out, and so with cars and other materials. It is so easy to devise specification and insert some innocent looking clause, which closes the door to all but



H. I. H. PRINCE TSAI HSUN, MINISTER OF THE NAVY.
Brother of the Regent, and Uncle of the Emperor.

some favored maker. The failure of the Chinese Railway Administration to adopt a set of standards for the roads under its control is almost criminal and opens the way to all manner of graft, corruption or favoritism, which in the end means a needless drain on the treasury.

The engineer of each loan-built railway has in the past been a law unto himself, and set his own standards and drew up his own specifications, and then when competition was permitted at all, it was restricted to a list of makers approved by himself.

The Chinese Government has placidly refrained from interfering in such practices, and the consequence is, that to-day after an expenditure of over \$120,000,000 Gold, there is no co-relation between the systems, interchange of cars or through traffic is almost impossible, and sooner or later the enormous outlay for her ill assorted collection of rolling stock will be wasted, and the lines equipped anew.

The time has arrived when China must face the situation and assert her authority. The Minister of Posts and Communications by further delay in authorizing a set of national standards, is piling up future trouble for his country, and holding open the door for further corruption and discrimination.

It is the only solution to a fair deal that will relieve China from the charge of evading the Open Door doctrine. If a committee of broad-minded foreign engineers, one Continental, one British and one American, together with a Chinese of the standing of Jeme Tien Yu, were appointed to devise a set of standards for Chinese railways, it would solve the question. Then when future railways are to be constructed, all manufacturers will know exactly what will be required.

At present half the time of the Engineer-in-Chief is devoted to drawing up plans and estimates for materials, instead of superintending the real construction work. With official standards already created, it would relieve him of much mental worry, and make impossible any improper practices or discrimination.

With a fair clean specification for locomotives, cars, bridges and other material, giving the manufacturers of all nations an equal opportunity to tender, real competition will result to the immense advantage of the Chinese Government.

If the present system is permitted to continue, then we may look forward to a repetition on the Hukwang Lines of the practices characterizing the building of other roads, and China will again "pay the piper". With a set of standards making for a clean cut specification once established, there remains yet another important feature for the insurance of fair play to all. This consists in timely advertising the tenders in the daily or other papers at Shanghai, so that every firm will be on the same footing.

There is plenty of time to spare in the construction of the Hukwang Lines, so that tenders for the purchase of all important materials can be duly advertised in advance allowing sufficient time to elapse before their opening. This enables the firms on the ground to mail the specifications home and receive their replies by mail. This feature is imperative for fair play. There have been instances on other railways, where the specifications have been in the hands of favored firms long previous to the advertising for tenders, which was only done to "save face". The advertisement called for the opening of tenders in three weeks time, or sufficient to enable the Continental and British agents to mail the Specification home, receive their price by cable, and the tenders opened and the contract awarded before the mail could reach America. So to insure fair play to the American manufacturer, the time should be lengthened. Aside from the spirit of fair play involved, the practice of short time advertisements for tenders is a gross imposition on the business community of Shanghai, who are compelled to use the cable if they wish to compete. It is safe to say that the disregard for this feature by the manage-

ment of the Tientsin-Pukow Railway cost the firms of Shanghai, in the aggregate, more than the entire profits realized on the sale of materials to the line. One locomotive tender in which 40 firms participated the cable tolls must have reached \$20,000 gold. Any system which will relieve the merchants from this unnecessary drain would meet with hearty applause.

I have pointed out a condition and suggested the remedy. If the Chinese authorities desire to be impartial and retain the good will of foreign manufacturers, and uphold their end of the Open Door doctrine, they will take action to alter present practices. Procrastination will not avail, as the situation must be faced now squarely and fairly. China's credit and prestige is at stake. If former discrimination and extravagance mark the construction of the Hukwang Lines, China's credit will be irretrievably lost. The loan of \$50,000,000 to construct 1200 miles of railway, is only \$40,000 per mile.

The American section of 200 miles through a mountainous country may well cost \$100,000 per mile or \$20,000,000. If the British Kow-

loon-Canton Railway cost over \$200,000 per mile, and the French narrow gauge line in Yunnan over \$60,000, no undue criticism could be directed against a cost of \$100,000 for the American section. This leaves \$30,000,000 to build 1000 miles of railway. Under purely Chinese management a suitable line might be constructed for this cost, but experience has taught us that loan roads built under foreign supervision are more costly. With all charges, it is fair to estimate the cost of the line at \$50,000 gold per mile or a total of \$70,000,000 for the entire system. And only by the most careful economy and strictest honesty can the lines be built with in this figure. With every resource of the Empire already hypothecated, it is difficult to conjecture where China will find the necessary guarantees for future loans, if the present policy of borrowing is continued. With a constantly increasing deficit in the Imperial and Provincial treasuries, and all possible revenues mortgaged, the end will come, unless corruption ceases.

The world will watch with great interest the progress of the Hukwang Lines, as it is China's last opportunity to prove her good faith.



H. H. Prince NA (Nayentu), Grand Chamberlain of the Court.

Dsazzak of the Khelka Mongols. Son-in-law of Prince Ching

THE IMPERIAL CHINESE PAPER MILL, SHANGHAI

Among the leading modern manufacturing plants in China the Imperial Chinese Paper Mill, located about four miles from Shanghai on the Whangpoo River above the Arsenal, takes a foremost place. The plant is owned and operated by the Imperial Chinese Government with Pong Lai Zung, a metropolitan official of the Fourth Rank, in charge as Managing Director.

The contract for the installation of the plant was awarded the American Trading Company after keen competition in June, 1905. The specifications called for an American paper mill having all the latest modern machinery

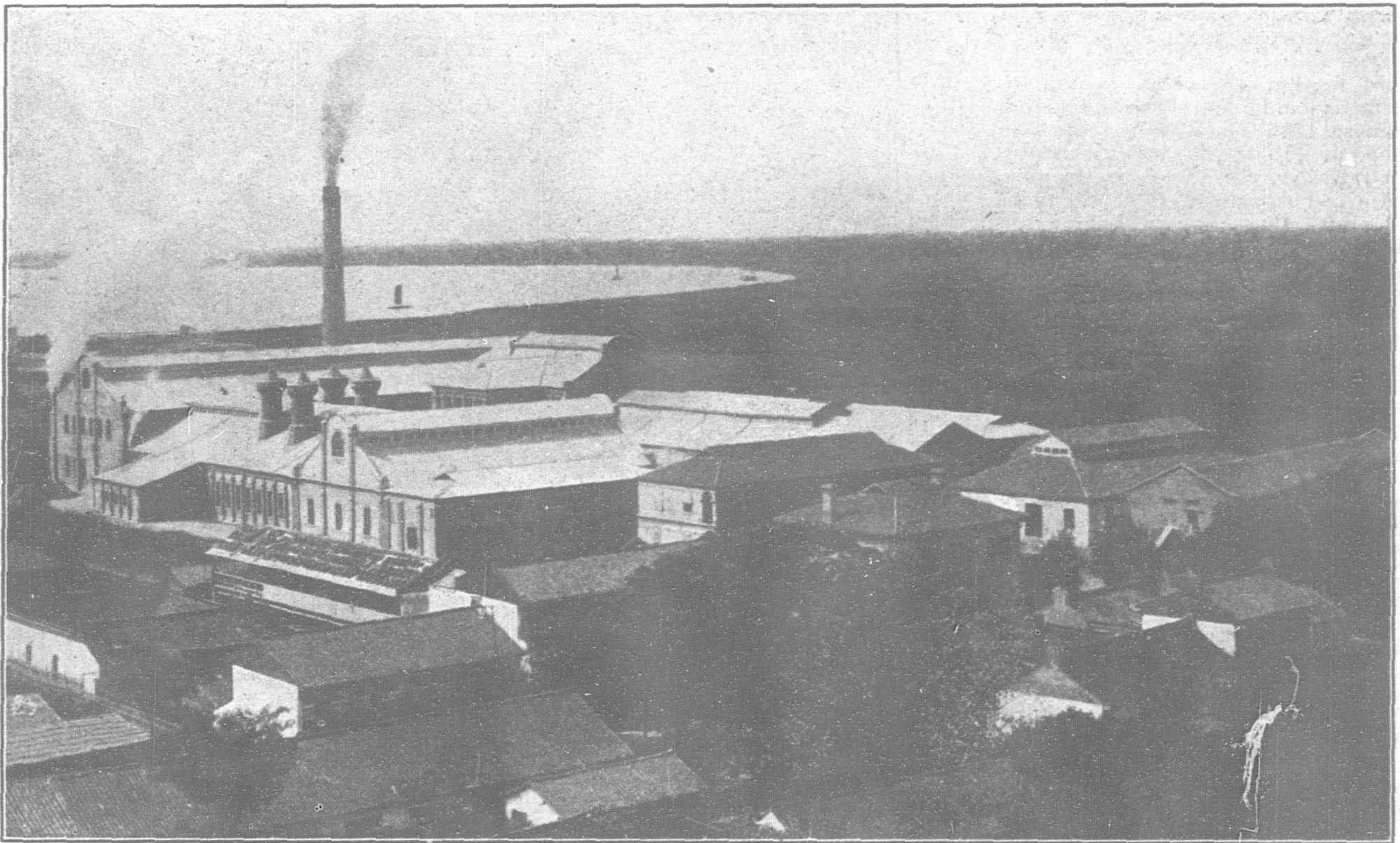
inch. The main engine is a 650 I. H. P. Lane & Bodley triple expansion four cylinder horizontal side by side engine with twin cylinder worm and screw actuating barring engine. A Worthington jet condenser is located in the pit at the right and aft of the engine. Power is taken from a fly wheel grooved for $18\frac{1}{3}$ ropes.

An electric lighting set is installed comprising one General Electric Co.'s vertical direct connected trunk pattern single cylinder engine with a 20 K. W. 360 R. P. M. generator.

bleaching boilers, boiled rag conveyers, and straw and pump machines.

Sizing and Loading Room.—This division of the plant contains cast iron size boilers, wood dissolvers, and alum dissolvers.

Beating Room.—This space is occupied by two Jones 4 ft. \times 5 ft. stock elevators, six Jones 54" wood tub washing and bleaching Hollanders with two cylinder washers, six complete 54" wood tub beating engines with one cylinder washer, two complete standard Jones Jordan engines, two Jordan stuff pumps, and 2 12-ft. wood stuff tanks with agitators.



THE IMPERIAL CHINESE PAPER MILL AT SHANGHAI

and equipment, with a capacity of 22,400 pounds of fine, and about 26,800 pounds of ordinary paper. The construction of the plant was supervised by the American Trading Company's engineer, the work being in direct charge of the Japanese engineers employed by the mill company, and within eighteen months after the contract was signed the installation was completed.

The Power Plant.—This consists of four 7 ft. \times 30 ft. Lancashire Galloway boilers in battery with Green's fuel economizer. Feed water is supplied to these boilers by powerful Worthington plunger and ring pattern pumps. The pressure carried is 160 lbs. per square

Rag Cutting and Dusting Room.—This department contains one Daniel's double blade iron frame rag cutter, one Wheat's improved rag duster, one cone fan duster, one exhaust fan for rag room, and one rag conveyer for carrying rags to the rag room above the rag boilers.

Chemical Room.—This room contains wrought iron caustic soda dissolving tanks, lime dissolving tanks, bleachers, and powder dissolving tanks with agitators, centrifugal pumps for caustic soda and lime, and bleaching pumps.

Rag and Straw Boiling Room.—This section contains 2 14 ft. McNeil's spherical rotary

Paper Making Room.—Here are installed two Beloit Iron Works Co.'s improved 100" wire tissue Fourdiner paper machines with gear train. Each of these machines is driven by a 100 H. P. Shephard automatic engine. The paper machines are complete from stuff chests to revolving cutters, and Jones vertical stuff pumps are provided to deliver to the Fourdiner machines from stuff tanks.

Finishing Room.—This department contains one 50" Guillotine paper cutter, one baling press with suitable hydraulic pump operated by vertical team engine with shafting, etc., adapted to meet requirements.

(Continued to Page 92.)

THE FAR EASTERN REVIEW

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SUCCESS OF THE FILIPINO LABORER ON SUGAR PLANTATIONS IN HAWAII

The experience of the Hawaiian Planters' Association has demonstrated the fact that in the sugar industry of Hawaii the Filipino may be developed into a satisfactory and efficient laborer. This result involves, however, considerable time, much patience, painstaking and careful supervision.

Comparatively few of the Filipinos going to Hawaii have ever been accustomed to continued or systematic work and it can hardly be claimed that the Association has been taking labor from the Philippines, but rather that they have been taking a possibility of labor and that the results of proper feeding and housing, of fair treatment and intelligent supervision have developed it.

Going as many of them do, ill-fed, anaemic, and with little in the way of clothing, it is not surprising that the first few months are frequently months of desultory work and that the wages earned are spent for fancy groceries and luxuries in the way of clothing rather than for necessities. When the Filipino comes to the realization of the fact that he is to be paid cash at the end of each month for the work done, and that he can supply all his wants and actually save money, a feeling of responsibility and ambition is aroused, his attitude changes and his work becomes of real value.

If the amounts of money sent home to the Philippines by the laborers were accurately known they would be astonishingly large. A single mail recently brought to one post office on a southern island, from which about one hundred people had gone to Hawaii, money orders to the amount of over two hundred and fifty pesos. Many of the Filipinos after a few years stay evince a desire to return to the Philippines, and an instance is recalled of a young man and his wife, to whom two children were born on the plantation, who in three years entirely supported their growing family, saved sufficient money to bring them all back and had a considerable cash balance.

Some thing over a year ago statistics prepared showed that of the number of Filipinos who had emigrated to Hawaii 86 per cent were at work on the sugar plantations. More recent figures show that they are gradually advancing into better and more profitable classes of work. In March of the present year there were employed on the plantations in Hawaii

463 Filipino contractors
162 " planters

These had all advanced from the condition of unskilled laborers, who are those receiving a monthly wage based on twenty six (26) working days per month.

CONTRACTORS are those who either singly or in companies undertake the performance of labor needed for some specific operation, such as planting, cultivating, cutting, or loading and for which they receive so much per ton of cane, and who during the period of the contract are advanced sufficient sums to meet living expenses.

PLANTERS are those who either owning land, leasing it, or being allowed the use of it by the plantations, raise and sell sugar cane to the plantations on an agreed price per ton.

Both of these classes allow of more independence on the part of the laborer and bring in larger returns but can be undertaken only after experience in plantation work. That the Filipino is acquiring experience and ambition is shown by the above figures.

During the last session of the Territorial Legislature a resolution was adopted directing the Committee on Agriculture, Forestry, Promotion and Immigration to carefully investigate and report on the character of Filipino laborers and the conditions of their acquisition.

On the question of character, the Committee reported in part "The overwhelming weight of the evidence gathered war-

rants the finding that the Filipinos are people of average "character"—usually peaceable and orderly, in the main honest, tractable, industrious,—generally the equal of most of the immigrants."

The Committee sent letters to various plantation managers asking among other questions the following:

Question 4. General characteristics of the Filipinos as laborers, (b) as citizens of the plantation community?

Some of the replies were:

Manager, Ewa Plantation.

"Filipinos are not as good laborers as other nationalities; but my belief is that, with regular work and regular pay, they will in time become efficient. On this plantation there are a number of men who are steady workers. As citizens of the plantation community they seem to be fairly peaceable. There has been less trouble with them than the writer anticipated."

Manager, Oahu Sugar Company.

"They are good for light labor, and seem intelligent, are not quarrelsome, but are obedient, and in time should make good laborers. Are peaceable citizens of the plantation community, fond of sport, and are gradually taking more interest in improving their own condition. They are a better lot of labor than the Koreans or Puerto Ricans, and as a large percentage of them talk English, it is not difficult to instruct them in their work. We have had very little trouble with them, they keep the peace, and do not drink more than other nationalities, and as they learn how to provide comforts for themselves, in the way of living, they will improve."

Manager, Olaa Sugar Company.

"The Filipino compares favorably with the laborers of other nationalities as to their peacefulness, and law abiding qualities in the plantation community. We have found some exceptionally good men amongst the Filipinos, and taking all in all I consider they have done as good work as the Japanese when they were coming to the country in large numbers from 15 to 18 years ago."

Manager, Waialua Agricultural Company.

"As cultivation contractors, the Filipinos on Waialua are doing as good work as any of our oriental contractors. On day labor they are a little slower than Japanese. On heavy work, such as flume cane, most of them drop out; those that remain are first class.

"As citizens of the plantation community, they are quiet, keep their camps fairly clean, obedient and respectful, although they are probably our worst gamblers; very little drunkenness.

"There are many good men who compare favorably with any men we have; this class pick up the work quickly, are reliable and steady. The tougher element leave of their own accord after working two or three months. All Filipinos seem more fond of sports, music and dancing than any laborers we have; they are ambitious to learn English and American ways; most men wish to attend some night school."

Manager, Onomea Sugar Company.

"Some are very good laborers, other indifferent and restless, a characteristic usually obtaining among all classes of Asiatic labor when first introduced here."

ALL NATIONALITIES PLEDGED TO ADVANCE PHILIPPINE INTERESTS

The month of July was marked by a successful campaign on the part of Manila Merchants' Association to enlist all the different elements of the commercial community in a cooperative movement designed to advance the interests of the Philippines. The result was an increase of over 100 in membership of the association among whom were representative businessmen of every nationality.

Manila is one of the most cosmopolitan cities of the world. Every active commercial nation is represented and foreign commerce is greatly in excess of American participation. It is only natural then that each nationality represented

should have its own chamber of commerce to advance the interests of that special group. The Merchants' Association was organized originally to discuss local problems, to carry on a campaign of publicity, and to make such recommendations to the local authorities touching legislative needs. The growth of the Association has been steady, but it seemed impossible to secure active interest on the part of the members of the foreign commercial bodies. The agitation for reciprocity between the islands and the United States endorsed by the Association which was controlled by American sentiment did not meet generally with the approval of the foreign interests who believed they would suffer from the legislation giving America a preferential market. As a result there was but a limited interest taken by the foreign communities in the work of the Association.

Reciprocity with the United States, however, did not prove so disastrous to foreign trade as was anticipated. The increased purchases of Philippine products by America enhanced the purchasing power of the islands, with the result that foreign trade increased by over 10% the first year and conditions generally were greatly improved. Instead of injuring foreign interests, free trade proved a material benefit.

All trade interests whether foreign or American participated in the increased prosperity of the islands, and there has developed a sentiment favorable to a greater measure of cooperation along lines designed to widen trade relations, encourage investment in industrial development and to give wide publicity to the Philippines.

The year 1911 has been especially marked by the advanced position taken by the Association. President Milton E. Springer recognized that the time was ripe for broadening out effectually and, with the support of an active executive committee, success crowned his efforts. The active co-operation of the Philippines Government was pledged and the foreign membership increased by leaps and bounds.

The new birth of the Association was celebrated in an unusual and striking manner at its annual banquet on July 27 when over 300 covers were laid and the enthusiasm prevailing emphasized the purpose of the merchants of Manila without regard to nationality to work together for the good of the community.

A few days previous to the banquet Governor General Forbes made an address before the members of the Association at their rooms on the pressing commercial needs of the Philippines in which he pledged the Government's co-operation in the working out of local problems. He prefaced his address by the following characteristic remarks:

"The Government cannot make prosperity, the Government cannot create wealth, it can only assist. It is the Government's business to so administer the Islands that the people may have the least possible obstruction to legitimate enterprise; that the individual may reap his greatest share in the fruits of his labors, and that the conditions under which agriculture, industry and commerce are conducted are as free and unrestricted as possible. To use a figure of speech, the surface of the field is to be kept smooth by the Government, it is the merchants who play ball.

"There is a vast amount of potential labor of excellent quality, and, without going into a discussion of Philippine labor at length, I will say that in the long run you will get what you pay for and if you pay well you will get good service. The Filipino is no fool and he must be well treated and also well paid or he will not play the game, because Nature is lavish and prodigal and will compete in the matter of kindly treatment to a degree upon which all employers of Filipino labor will have to calculate.

"In the matter of the willingness of the labor to work I am not very hopeful of very early results; the old system of inadequate incentive has been of too long duration and the growth of a demand for a higher grade of living and of the supply necessary to fill this demand will be a slow matter. The majority of the people of the Philippine Islands, even if money were given them today would not know how to spend it advantageously. In this respect they do not differ very greatly from the people of all

other countries in the world, who usually make a poor use of the first money which they get, spending it on things which they think they want but which they probably find are bad for them. You give a large sum of money to a hundred people in America and see what portion of them will be benefited by it. Most people have to have time and experience before they will make good use of money and some never do learn. Thus we cannot criticize the Filipino because he is like every other human being and makes a bad use of his first free money. Thus will the cockpits flourish until the Filipino learns the value of doctors and medicines, hospitals, good stores, better food, better clothes, more durable houses and until the means of supplying the desire for these things is at hand. We are now lying in the doldrums between the two incentives; the old incentive of fear by which men were practically forced to work is giving way to the new incentive of desire by which intelligent self-interest will make men work. That there is no possible question as to the result and the success of the new incentive when it gets in full force is proven abundantly by the experience of our laborers in Manila where good wages are paid and where the individuals can get a good living; and having learned to want the good things they can get by working, they do now work satisfactorily. Also in Hawaii, the experience with Filipinos has proven them to be as good laborers as Porto Ricans, Koreans and Japanese."

He declared his purpose to assist the Association in preventing adulteration of Philippine products. He said:

"I have recently directed the Attorney-General to prepare a law designed to penalize frauds in the matter of classifying and putting up staple articles of Philippine production. I don't know whether the real evil can be reached and remedied by law, but there is no doubt that it can be reached by a combination of law, and regulations put into effect by associations formed by the interested parties, and by the development of enlightened public opinion condemning such practices. One of the advantages of the association would be that where each concern has put in a deposit of good faith the best markets would soon be reserved for goods guaranteed by the association, and any member found guilty of adulterating or fraud could be fined or fired from membership and lose whatever privileges attach thereto.

"Last and not least of all these things is the proper advertisement of Philippine goods. The Legislature has shown its appreciation of the importance of this by the passage of Act 2058 appropriating P50,000 for the advertisement of Philippine goods in the United States. The Government stands ready to co-operate with the merchants to the fullest extent of its resources in this very important particular.

"It is the business of all of us,—of you and of me,—to see that at no point in the passage of the river of trade, to return to my first simile, is the obstruction such as to choke the flow. And this has been the principal menace to the successful conduct of business in the Islands; namely, that it has always been the practice of too many to try to make too much out of their transactions, and in this way tend to kill industry. Producers who cannot operate without loss will abandon the trade, and thus the goose that lays the golden egg is killed. So it is up to the owner of land who leases it to the "aparsero," to the man who loans him money, to the launch owner, or cart owner, or automobile owner who carries it to the point of shipment, to the man who owns the bodega at point of shipment where the product is housed until the train or steamer arrives, to the railroad company or steamship line, to the stevedore and transportation companies in the major ports, to the warehouse people and to those people who loan money on produce until the time of sale, to make absolutely sure to take no more than the business will stand. They must not crowd business back to the point of production, thus ruining trade or forcing the little man out and the larger man to provide himself with his own facilities which in time may prove to be a competitor. In other words, they must be careful to measure the flow and where the flow checks take

less and reduce their own prices and if necessary their own profits in order to make sure that the volume of business does not decrease and thus give the whole country a set back, in which they themselves will be included.

"To accomplish the complete regeneration of the economic Philippines and bring about the reforms I have outlined there are two things that are necessary: co-operation and capital.

"The Government can do a part; the merchants can do a part, but the two together are vastly stronger than either alone. Let us get together and stay together. The recent activity of the Merchants' Association is as earnest of the new era which holds brilliant promise for future understanding and co-operation.

"Once we are all pulling together and co-operating and presenting a solid front we can expect others to have confidence and come to invest capital. For the introduction of economical methods and modern improvements means money. We have got to have money. Without it we cannot compete in the markets of the world with other countries that have capital already invested."

The well defined attitude outlined in the Governor General's address was received with enthusiasm and the whole community woke up to its responsibilities in this campaign. The attendance at the annual banquet which followed a few days later and the interest displayed might well be taken as evidence of renewal of purpose.

Thespeakers at the banquet represented every section of the commercial community. Governor General Forbes enlarged on the subject of advertising. The government was prepared to put up a dollar for every dollar subscribed by the merchants for that purpose and there were P50,000 in the Insular Treasury now available. He even announced his own subscription of P1,000 to head such a list. He urged the establishment of agencies in China, Japan and the United States for the purpose of attracting tourists here and expected to establish a government bureau to spread Philippine gospel and to refute calumnies heaped upon the islands by the unscrupulous.

The Governor General was followed by Alcalde Roxas and Bishop Chas. H. Brent. H. I. Japanese Consul General, Mr. Sugumura, made a speech in which he stated that he expected to see the trade between the islands and Japan doubled in the next five years.

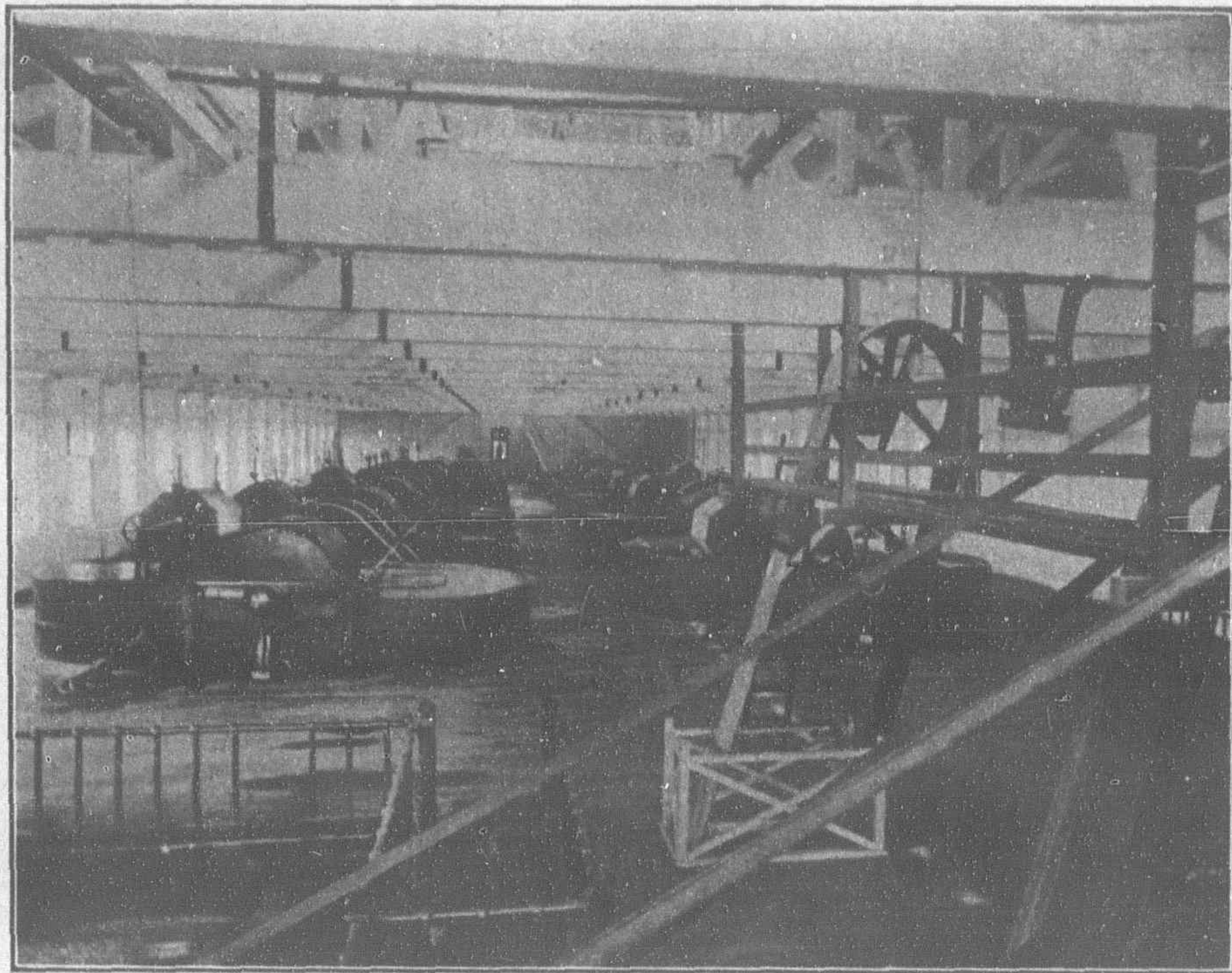
Hon. Charles B. Elliott, Secretary of Commerce and Police, followed and advocated greater co-operation between the commercial interests and the Government, but pointed out that the Government was for the benefit of all the people and not any particular body or interest, and that it should keep the field clear in order that while the commercial interests are encouraged legitimately it must be along lines consistent with the general prosperity of the country.

Mr. William S. Macleod, head of the well-known British firm of Messrs. Macleod & Co., favored the occasion with an excellent address in which he dwelt upon the benefits of the Payne Bill and made a strong plea for co-operation in improving the quality of Philippine exports and maintaining the highest possible standards. He expressed his faith in the future of the islands as a producer of rubber, coffee, spices, cocoa, etc.

Señor Eduardo Soriano, President of the Spanish Chamber of Commerce, gave a comprehensive review of the commercial history of the islands and entered heartily into the spirit of the occasion by urging every interest to co-operate for the general good.

Mr. E. Zuellig, a prominent German importer, reviewed the commercial situation with special reference to the adjustment of certain lines to meet the changed conditions under the Payne Bill. He was enthusiastic over the Association program and expressed his belief that active co-operation would result in immeasurable advance of insular trade and industry.

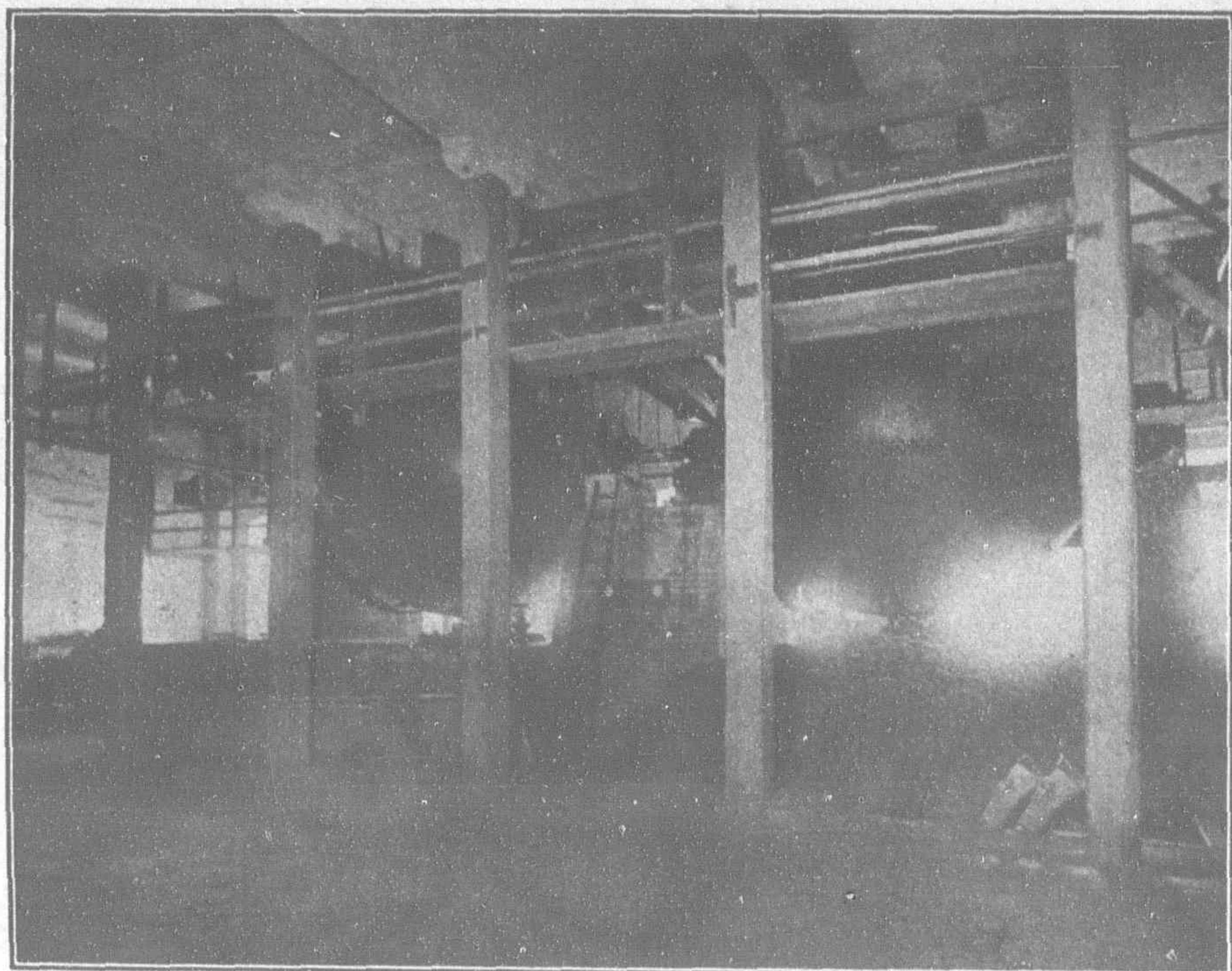
A speech by President Hord of the Banco Español Filipino, chairman in charge of the banquet arrangements, was the last address on this historical occasion. He has always been a promoter of greater co-operation among the merchants and expressed gratification at the display of sentiment indicating that Manila was well on the way to accomplishment.



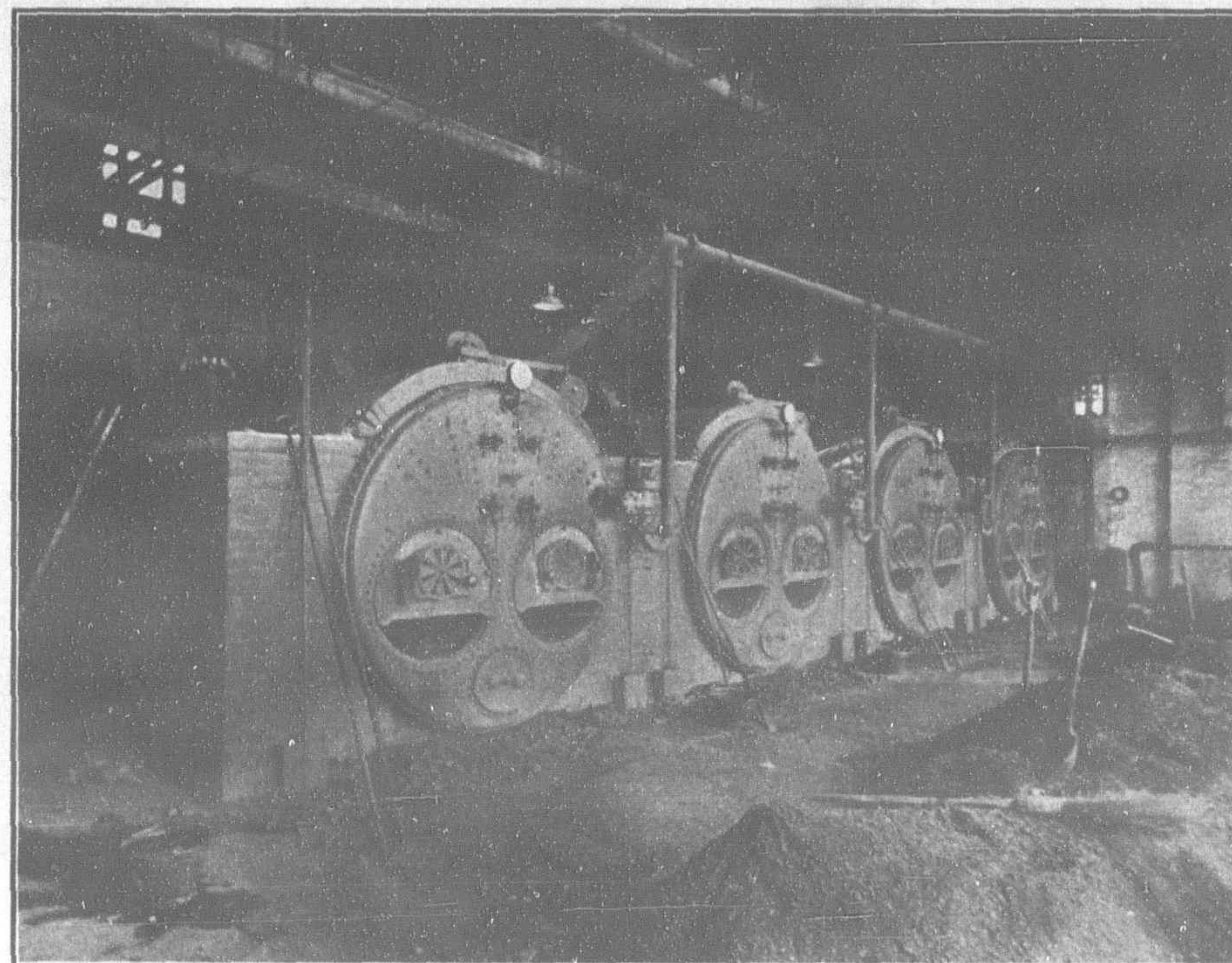
BEATER ENGINE ROOM—TWELVE E. D. JONES & CO.'S PATENT BEATERS AND TWO JONES JORDAN ENGINES



MACHINE ROOM FROM STUFF END—TWO BELOIT IRON WORKS MACHINES



RAG BOILER ROOM EQUIPPED WITH TWO 14-FOOT RAG BOILERS



BOILER ROOM, IMPERIAL CHINESE PAPER MILL, SHANGHAI, WITH GREEN'S ECONOMIZERS

THE IMPERIAL CHINESE PAPER MILL, SHANGHAI

(Continued from page 88.)

The Machine Shop.—This shop is equipped with one vertical steam engine with auxiliary boiler, one 42" Bickford radial drill, two lathes, 16"×24" one 36"×36"×8" Cincinnati planer, grinders, forges, etc., with suitable connections.

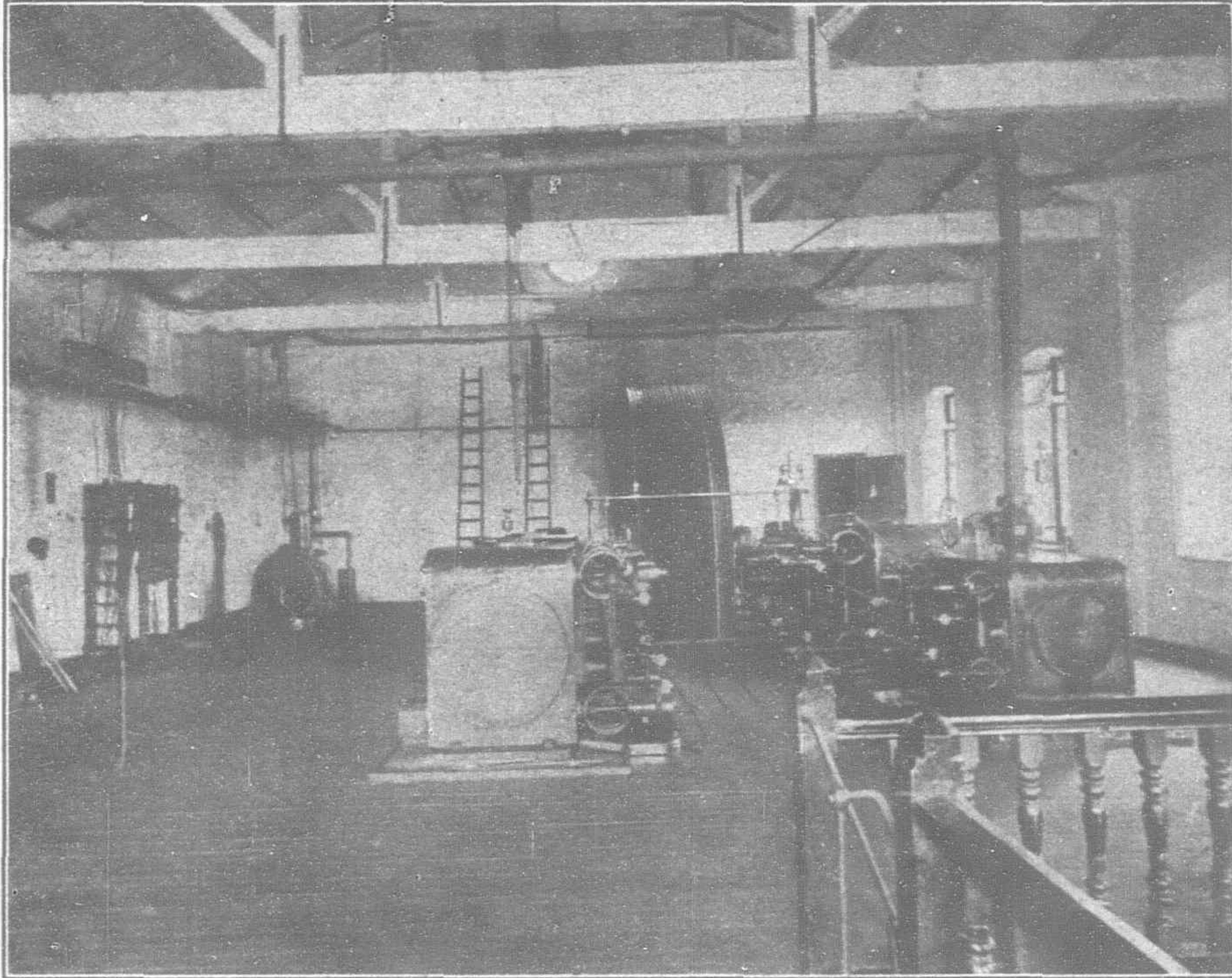
Carpenter Shop.—This division is supplied with circular saws, etc., and all necessary equipment to provide a modern shop.

Water Purification and Supply Plant.—Here are installed one low lifting centrifugal pump for filters capable of lifting 200 cubic feet of water per minute, one double acting Duplex horizontal Worthington low pressure general service pump 14"×14"×10 eight 16 ft. ×12 ft. wood tub filters, 2 main water tanks 16 ft.×12 ft. and one 18 ft.×16 ft. also one

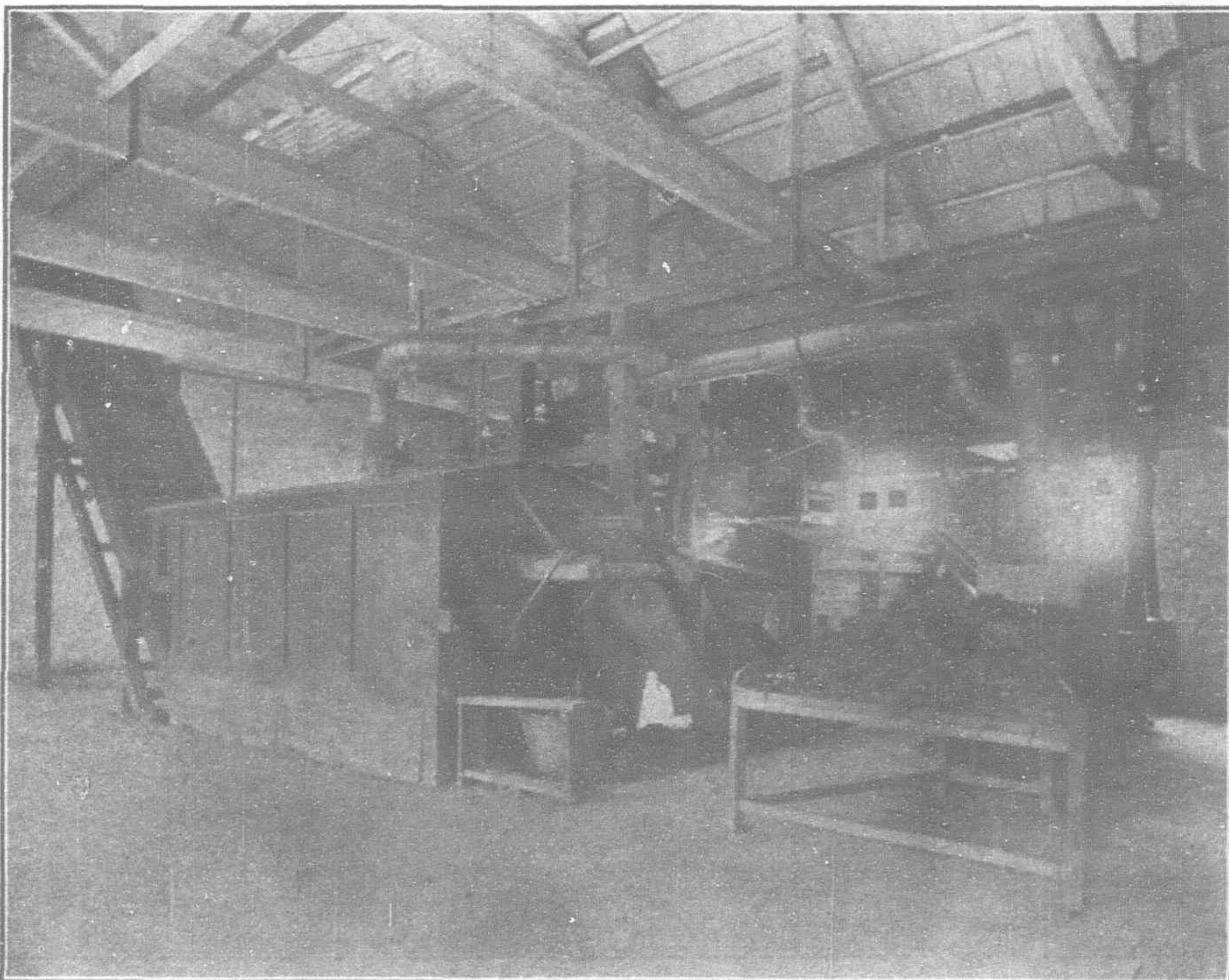
elevated iron supported maintank for general water supply.

The plant is a credit to the Chinese Imperial Government and to the contractors and manufacturers. The American Trading Company exhausted every possible effort in making the installation typical in every way of the best American practice and the manufacturers supplying the machinery co-operated most satisfactorily by expeditious delivery of machinery. Among the manufacturers referred to were Messrs. E. D. Jones & Co. of Pittsfield, Mass., the Beloit Iron Works Co. of Beloit, Wisconsin, the General Electric Company of Schenectady, N. Y., and the International Steam Pump Co. of New York.

The quality of paper turned out is equal to the best American or European manufacture.



MAIN ENGINE 650 H. P. TRIPLE EXPANSION



RAG ROOM SHOWING RAG DUSTERS AND CUTTERS

A STAFFLESS HAND BRAKE

In order to meet the requirements of modern ideas of car platform construction, says the *Electric Railway Journal*, the tendency of which is to reduce the space occupied by the controlling devices thus increasing the facilities of handling passengers as evidenced by the popularity of the prepayment plan of platforms with transit operating officials, a new hand brake has been designed and patented by G. S. Ackley, the well known inventor of the "Ackley Adjustable Brake". This new brake, as shown by the accompanying illustrations, combines in an ingenious manner the space saving features of the vertical wheel with the advantages of the spur geared eccentric winding drum. It has been named the "Ackley No-Staff Brake" as it will be noticed the customary brake staff with its heretofore necessary evils is eliminated. The "Ackley No-Staff Brake" has also been designed for steam cars both passenger and freight service, and can also be used in place of the old slow acting screw brakes.

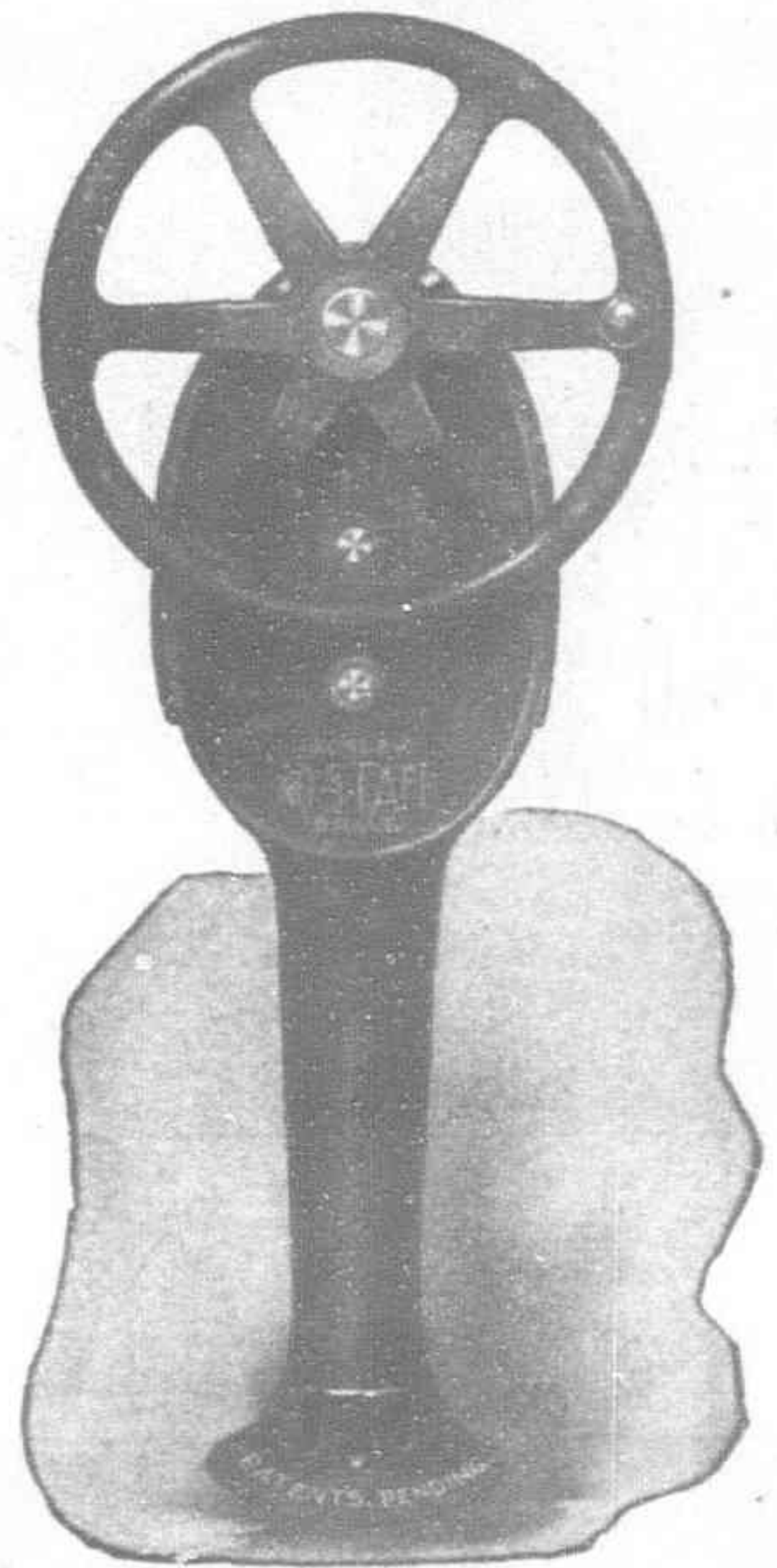


FIG. 1

Fig. 1 shows a full front view of the new brake as it appears on a car platform. The pedestal and gear housing is a one piece casting with doors on both sides for assembly and inspection purposes. Care has been exercised in its design so that it presents a symmetrical appearance and does not mar but rather adds to the attractiveness of the car equipment.

A side view is shown in Fig. 2 with the doors removed and the pedestal broken open disclosing the interior mechanism. The brake chain is attached to the eccentric or cam of the drum,

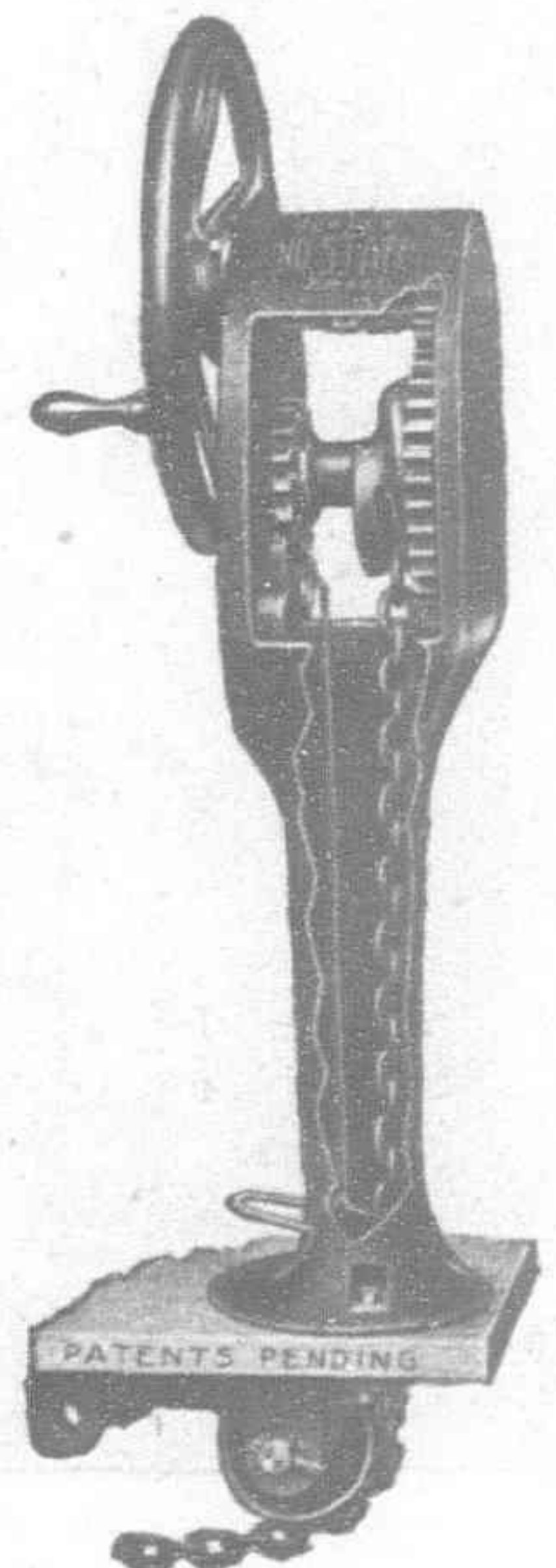


FIG. 2

and by means of the spur gear cast to this drum and the pinion actuated by the hand wheel, is wound along the smooth spiral course on to the drum's smallest diameter. This drum revolves on a roller bearing, and with its axis being in a horizontal position there is no difficulty in the release, as the tension and weight of the unwound portion of the chain serves toward this purpose. In this illustration the chain is shown as "out" or fully unwound and as used with the sheave wheel under the platform floor, being connected with the brake levers in the usual manner. A new arrangement is used in holding the brakes when applied; a pawl ratchet is mounted on the end of the drum and a pawl or dog mounted on the housing by a stud bolt directly under. The pawl is weighted on the spur end so that it is kept normally free of the ratchet. A vertical rod connects the pawl with the foot lever the exposed part of which is normally raised. When the brakes are set and the motorman desires to hold the car he locks the gears by the weight of his foot upon the foot lever which throws the pawl into engagement with the drum ratchet. A slight turn of the hand wheel in the winding direction allows the weighted spur end of the pawl to drop free of the ratchet permitting the brake to release,—but only when the motorman is prepared for or desires it at which time he has hold of the hand wheel. This feature eliminates the dangers of the old staff floor ratchet and pawl where it is possible for the pawl to be inadvertently kicked loose allowing the brake handle to revolve under the releasing tension with

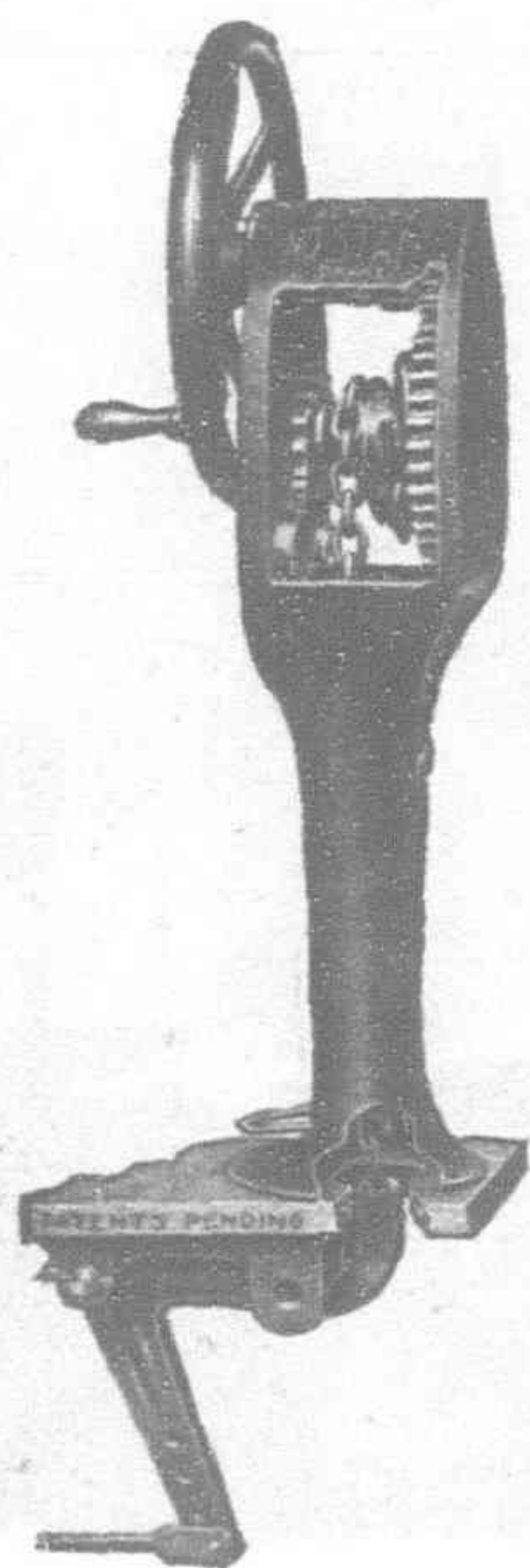


FIG. 3

great force and rapidity, a danger many car men have experienced, some with serious and even fatal results. Fig. 3 gives a side view showing the chain wound "in" and the ratchet pawl holding the brake from releasing. This view shows the brake as used with the "goose neck" lever connection between the brake chain and the brake levers; this "goose-neck" connection provides for additional or variable leverages as a series of holes permits the draw rod to be attached at different distances from the fulcrum. Different combinations of gear ratios are provided for, but those of 14:34 and 12:36 (the gears are 4 pitch) have been found to give the most satisfactory results; these combinations are interchangeable in the same housing. The "Ackley No-Staff Brake" is fully covered by patents issued or pending in all important countries of the world and is the result of a universal knowledge of brake conditions and requirements gleaned by Mr. Ackley from personal observation and study in twenty six different countries. This new brake will be handled for export by the Ackley Brake Co., New York City, and by the British Ackley Brake Co., London, the Deutsche Ackley Bremsen Co. m. b. H., Berlin, and the Compagnie Francaise des Freins Ackley, Paris.

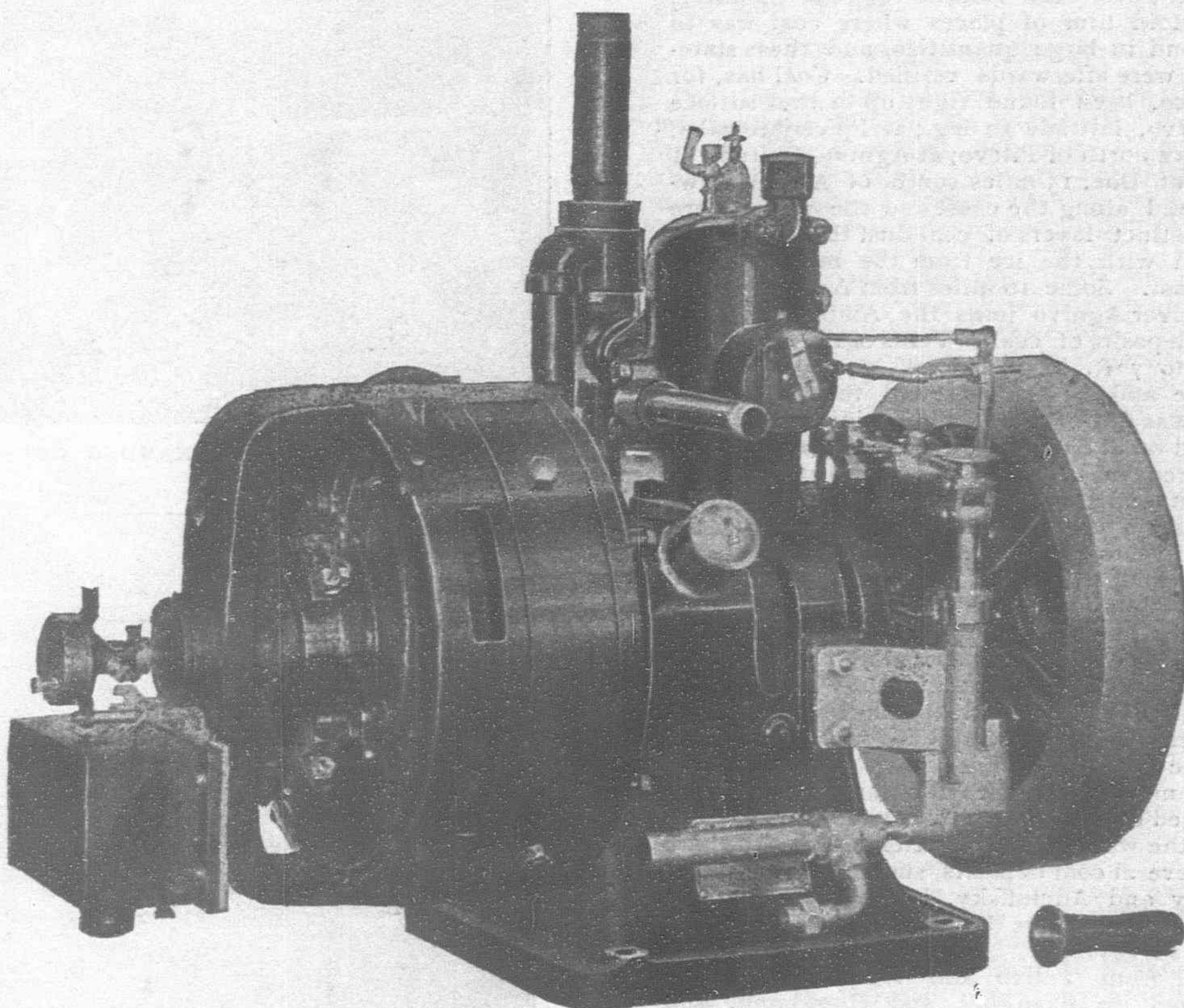
NEW ONE KW. GAS ELECTRIC GENERATING SET

The advantages of electricity for illumination and power make it indispensable to this enlightened age, yet many people who would like to use it are not within the zone of distribution of an electrical system, and so to enjoy the advantages of electricity must install their own plants.

The General Electric Company, who manufacture gasoline-electric generating sets of capacities 3, 5, 10 and 25 kw. have added to this line a 1 kw. set which is designed for furnishing electricity for power and lighting in private residences, small hotels, rural railroad stations, etc., not now served by

eral Electric Company manufactures for use with these sets a suitable board for controlling both the generating set and such a battery, as well as two types of switchboard for controlling the set alone.

The combination generator and battery switchboard is so arranged that the battery can be charged at the same time that the generating set furnishes power for lights or motors, without affecting the operation of these appliances, while when the battery is fully charged it can be connected with the system so that the generating set can be shut down without interrupting the service.



ONE KW. GAS ELECTRIC GENERATING SET

central stations, and on board boats. This set comprises a single cylinder, vertical, 2-cycle water cooled gasoline engine direct connected to a 1 kw. D. C. generator. The regulation and steadiness of the voltage of this set is so good that it is possible to supply current direct from the generator, thus avoiding the expense of installing and maintaining a large battery and the loss of power and troubles incidental to the operation of the latter.

The engine is provided with a suction gasoline pump for lifting fuel from a tank placed under ground and located at some distance from the engine, thus fulfilling the requirements of the National Board of Fire Underwriters.

The cooling is by thermo siphon, thus doing away with the necessity of a pump to provide forced circulation of the cooling water.

The governor is located in the engine fly wheel and operates a throttle valve, giving very close regulation and satisfactory operation at all loads.

The dimensions of this 1 kw. set are: Length, 2' 6-5/8"; height, 2' 2"; width 17-5/8", and the total weight is 350 lbs.

Recognizing the fact that it is frequently desirable to install a small storage battery to provide a few lights on occasions when the generating set is not running, the Gen-

GOULDS MANUFACTURING CO.'S EXPANSION

The Goulds Manufacturing Company of Seneca Falls, N. Y., are about to build four large additions to the No. 2 Plant, in which will be housed the part of the works known as the No. 1 Plant, part of which must be torn down to make way for the new barge canal. The new buildings will be parallel with the foundry buildings. A one story storage buildings for rough castings is completed. This building is 240 by 60 feet and of mill construction.

Two machine shops, 300 by 100 feet, will parallel the storage building. They will be of steel frame and brick construction and about 70 per cent of the wall surfaces will be glass. South of the two machine shops a four-story warehouse 240 by 60 feet will be built. These will be reinforced concrete and on the south side there will be a loading platform. The New York Central will build two additional switches along the warehouse. All the new buildings will be lighted with tungsten clusters and will be heated and ventilated by the hot blast system. All the equipment of the machine shops will be motor driven. By Nov. 1 the buildings will be ready for use.

THE WEALTH OF SAGHALIEN

According to recent researches by a Danish engineer, embodied in a report by the Danish Consul-General at Shanghai, the island of Saghalien appears to be rich in several minerals, among them coal, perhaps, more especially. Coal is found all over the island, although it is as yet impossible to accurately measure the volume of deposits. Innumerable veins on the west coast can be traced right into the sea and along all rivers and heights. The engineer in question travelled over considerable portions of Saghalien, and had the opportunity of questioning a number of natives and criminal prisoners, who, better than others, know the interior of the country. They told him of places where coal was to be found in large quantities, and these statements were afterwards verified. Coal has, for instance, been found right up to the surface at Pilevo, latitude 50 deg.; at Pjeverjaretzaka, 10 miles north of Pilevo; at Agnivo, latitude 51 deg.; at Due, 15 miles south of Alexandrowsky; and along the coast and the rivers there are distinct layers of coal dust that has been carried with the ice from the mountains to the coast. Some 10 miles from Agnivo, where the River Agnivo joins the Amber, he found rich deposits of coal. Veins of the pure coal, 5 ft. to 7 ft. in thickness, go right to the surface and the natives stated that the mountain was full of coal. Coal-mining has been carried on at Saghalien ever since the Russians appeared in the island, but only on a very modest scale, and in a very primitive way. At Due a coal-mine has been worked for thirty years without any other plant than a winch and primitive engine, that obtained steam from an old ship's boiler. This mine has now been sold to a company, which is going to exploit it rationally.

The old Government mines are located halfway between Due and Alexandrowsky, where the criminals were employed up to the time of the Russo-Japanese War. It was from these mines that the Russian Pacific fleet obtained coal, but the mines have been worked since the war. North of Alexandrowsky there are several coal deposits, such as the Wladimirsky and Admoffsky, where Russian Government engineers the last year or two have been surveying.

Coal from Pelivo and Agnivo has been analysed in Shanghai and Hongkong, and found to be superior to best Welsh coal and leaving only 3 per cent. ashes. Its superior quality is known to captains and ships' engineers in the East, and the Norwegian boats trading over Kamshatka and Alaska never coal in Japan, but wait till they get to Saghalien and then go into Due. All are unanimous that the Saghalien coals are as good as any other kind of coal in the East Asiatic market.

Some thirty years ago an American syndicate secured a concession for coal mining and export, but the syndicate operated only a couple of years, as the concession was cancelled, when it was found that the company allowed the convicts quartered on the island to escape by their steamers, since then Americans have not done anything at Saghalien, but it appears that they are again planning to exploit its natural wealth.

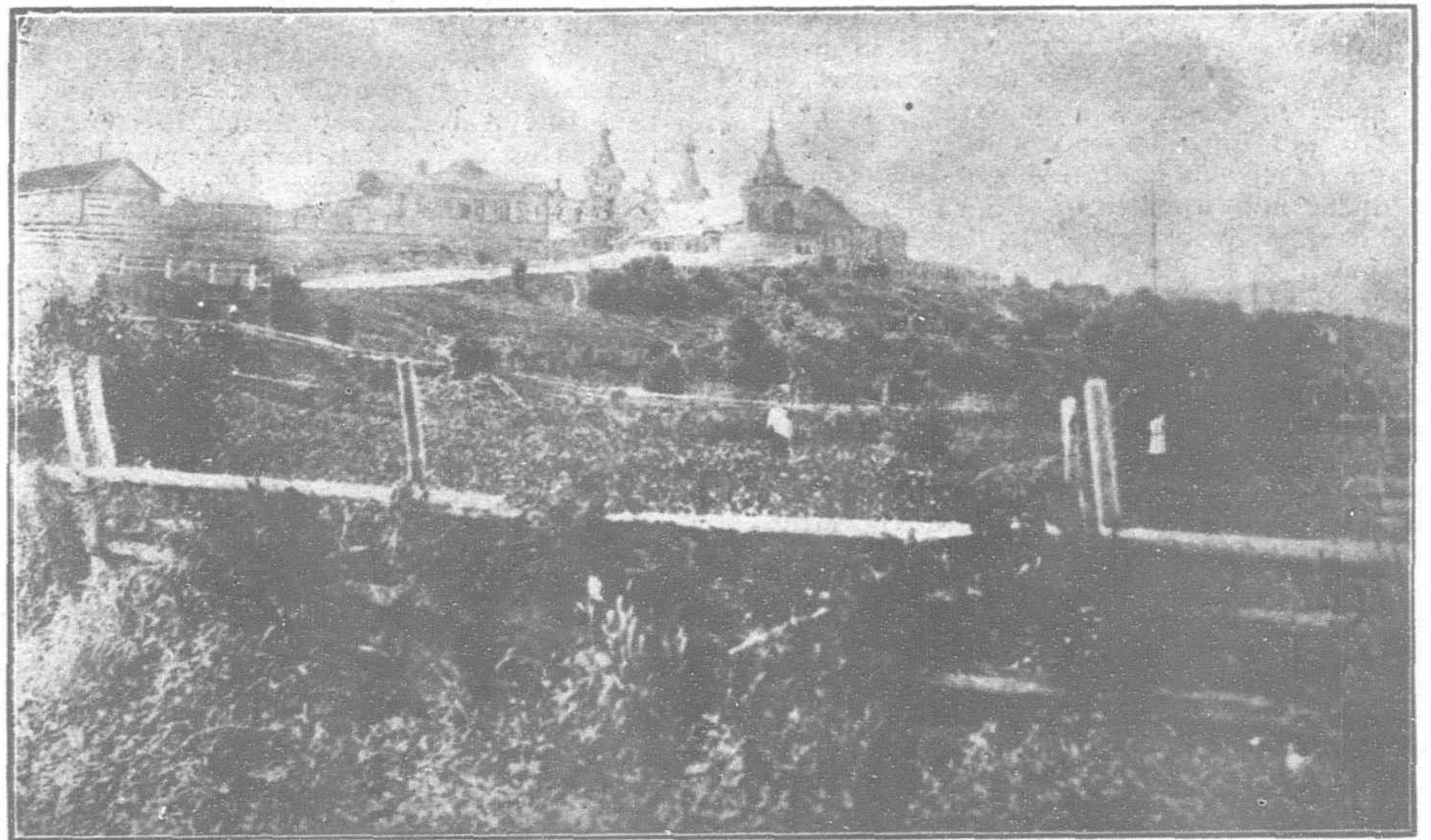
Russian Government engineers have lately been engaged in examining the coal deposits at Vladimirsky and Adamoffsky, north of Alexandrowsky, and at Due a Russian named Makaffsky, from Vladivostock, who has been working a coal mine for the last thirty years, has transferred his property to a syndicate, which is going in for modern and more extensive working.

COAL MINING CONCESSION

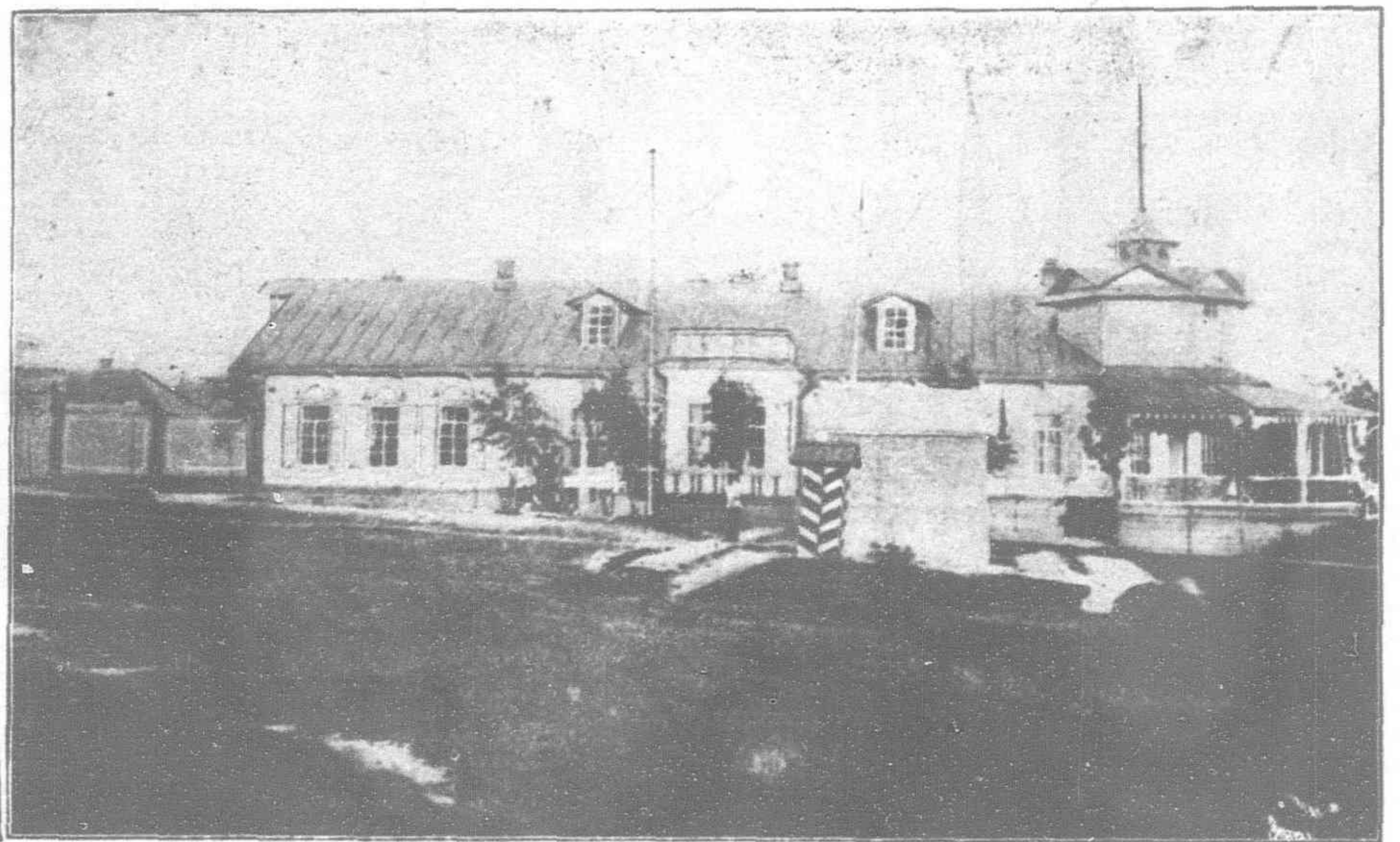
The Russian Minister of Trade and Industry recently submitted to the Council of Ministers a proposition on the leasing of the coal mine properties in the island of Saghalien by competition. Competitors must be able to deposit 5,000 roubles, and the period of the concession is to be 36 years. The payment is to be in the form of so much per pood,

with a minimum of half a copeck (half a farthing) per pood (36 lbs.). Only two and a half years are to be allowed for investig-

ating the allotments and preparing work for the extraction of coal, during which period the concession will be franked of dues.



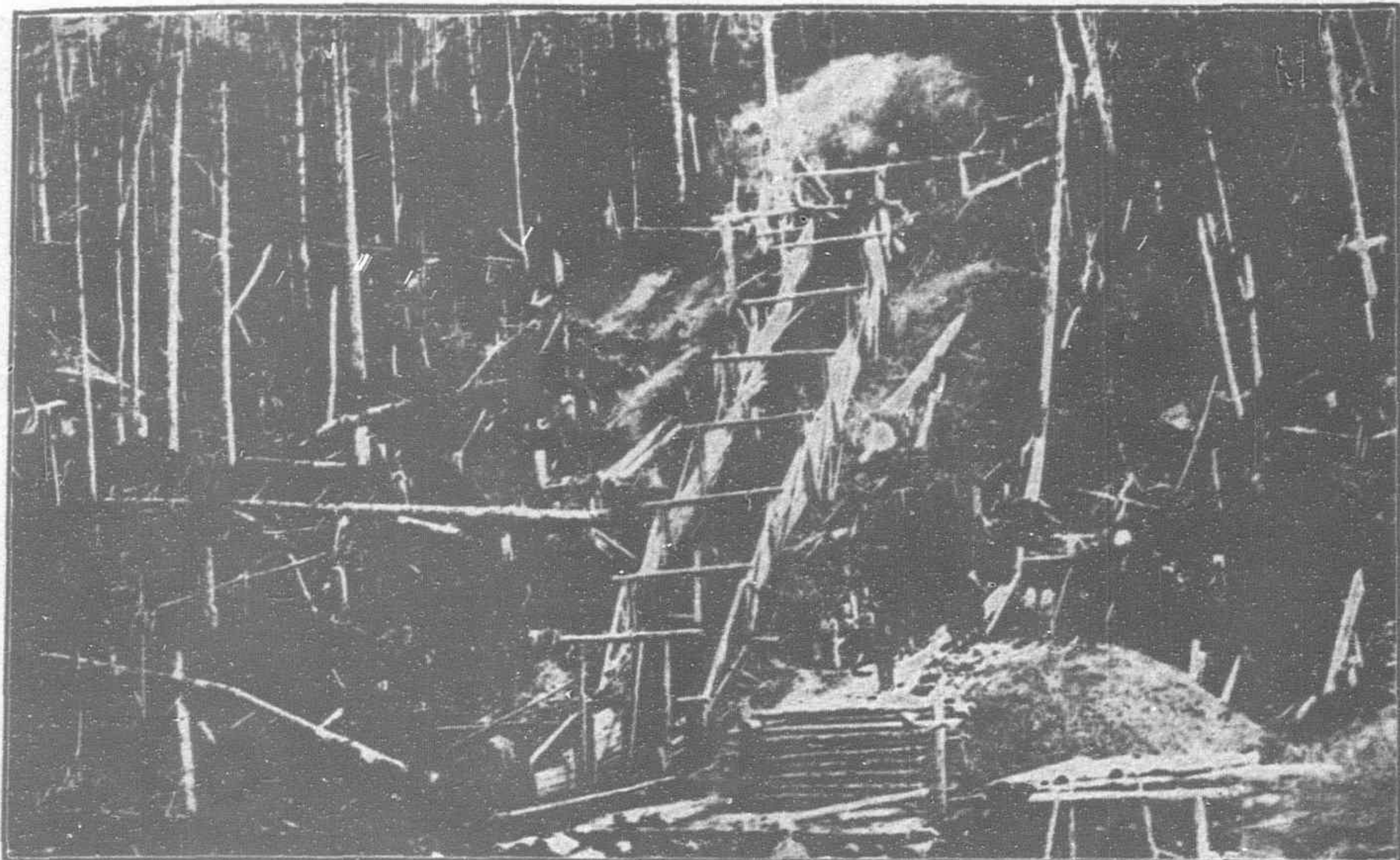
SAGHALIEN: ALEXANDER CHURCH AND MUSEUM AT ALEXANDROWSKY



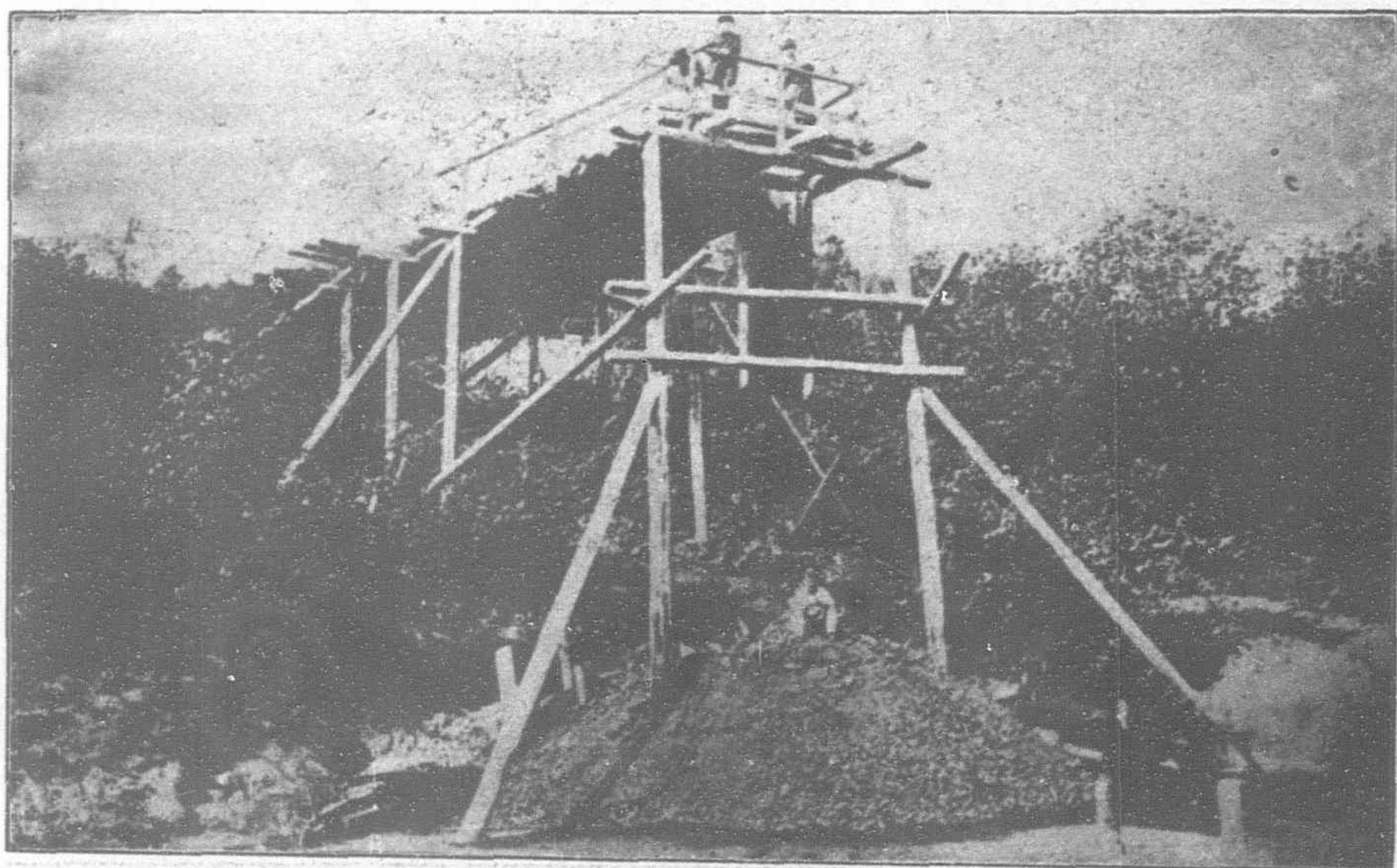
SAGHALIEN: THE GOVERNOR'S RESIDENCE AT ALEXANDROWSKY



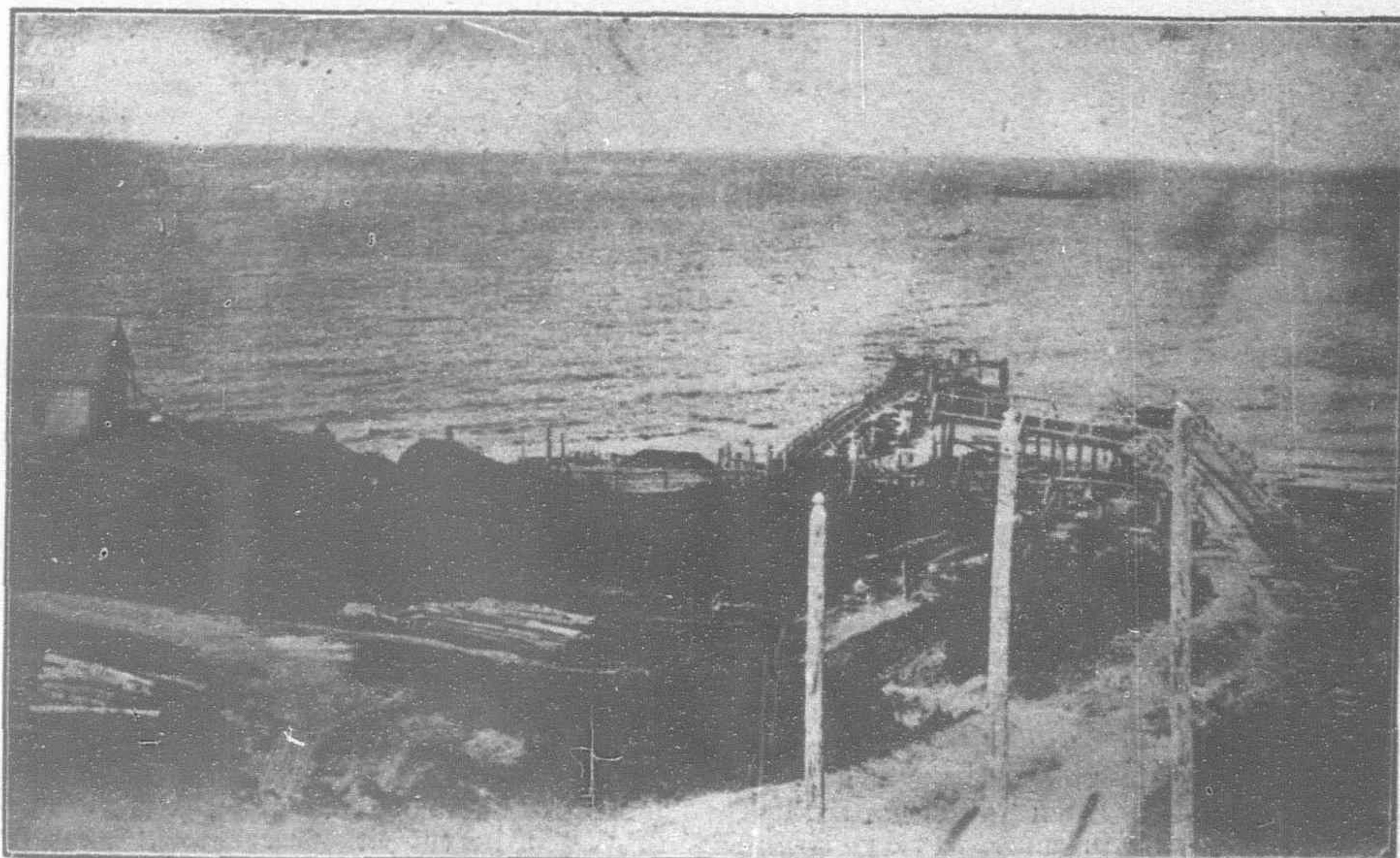
SAGHALIEN: THE PORT OF ALEXANDROWSKY



SAGHALIEN—COAL MINES



SAGHALIEN—COAL MINES



SAGHALIEN: THE SHIPPING WHARF OF THE MAGTSCHINKOVA COAL MINES

During the first three years of production the lessee must extract not less than 500,000 poods per year, and during the succeeding years until the close of the concession the extraction will be calculated at a minimum of 1,000,000 poods per annum; and it will be at the discretion of the Ministry of Trade and Industry to double this latter minimum when the trading port is completed on the western shore of the island of Saghalien. To exploit the surface a rent will have to be paid, subject to variation according to circumstances, and the workmen to be employed on the concessions must be Russians. The surface rent is a nominal one of one rouble (2s. 1½d.) per dessiatine (2.7 acres). This rent again may be increased every 10 years by 50 per cent. There is no mention in the advice of the terms on which concessions for other minerals may be had.

JAPANESE SAKHALIN

Writing on the mineral resources of Japanese Sakhalin Mr. W. M. Royds, H. B. M.'s Acting Vice Consul at Hakodate, states that the strata in Karafuto (Japanese Sakhalin) are mostly of tertiary formation and hold very rich veins of coal, which in some places reach a thickness of 50 ft. The coal is of good quality, and resembles the Yubari coal of the Hokkaido. There are three important coalfields, viz, the northern, the central, and the southern, besides others of less importance. The central and largest coalfield, stretching from the river Pusutaki, a tributary of the Susuya, to the river Tomaioro, is 60 miles in length and from 1 to 3 miles in breadth. This field is but little disturbed by faults, and the seams of coal are thick and regular. The northern coalfield lies along the eastern side of the axial mountain range of Karafuto, extending from near the mouth of the river Poronai to the Russian boundary at latitude 50°. The southern coalfield is situated in the central portion of the Noto peninsula. This field is rich, but somewhat irregular, the inclination of the seams being in many places very sharp.

At Tomaioro, on the west coast, the Karafuto Administration have already started operations for working the large central coal-field. A coal-mining experiment station is established there, and coal is produced and supplied to the Government railway. Work was begun in October 1909. the output was 4,552 tons, of which 535 tons were sold to private individuals. The present workings are distant some 7½ miles from the coast, and a light railway of 2 ft. gauge has been laid to bring the coal to the sea for shipment. It is intended to reach an output of 100 tons per day at this experimental station. Concessions have been granted to private individuals to work other part of the coalfields, but operations have not yet begun.

PETROLEUM

The island also appears to be rich in petroleum. The Russo-Chinese Bank financed an expedition to a place called Tchaiwo, on the bay of the same name. According to the report of this expedition the borings undertaken, although they were neither numerous nor deep, brought considerable quantities of petroleum to the surface, and subsequently a more scientific examination undertaken by Russian geologists confirmed this result, and it was the general impression of these scientists that vast subterranean petroleum reservoirs are to be found along the whole of the East Coast of Saghalien. As the petroleum in some places is only come upon at a depth of 400ft, the research entails considerable expense.

The Russo Chinese Bank has secured a concession for the petroleum springs at Tchaiwo, and from what so far has appeared the concern looks most promising; installations on a comprehensive scale have been made, and there is an excellent natural harbour. A Shanghai syndicate has also been formed for the purpose of exploiting exceedingly rich petroleum springs in another locality and com-

peting with the Standard Oil. Other discoveries of immensely rich petroleum springs have recently been reported.

H. M. Vice Consul at Vladivostok (Mr. R. M. Hodgson) has furnished the following particulars relative to petroleum deposits in Russian Saghalien:—

The three petroliferous areas so far known to exist in Russian Saghalien are all on the east coast, and may be distinguished as (1) the Okha River oil-field, (2) the Boatasin and Nutovo oil-fields, and (3) the Nabil Bay oil-field.

The first-named area appears to be one of considerable promise, being remarkable for the existence of a large "petroleum lake" covered with a thick coat of asphalt. The Boatasin and Nutovo River oil-fields area is the one to which, up till now, the most serious attention has been paid. In 1898 a German engineer found, some eight miles from the mouth of the Nutovo river, a number of petroleum outcrops resembling those in the Allas Valley, and also discovered five "petroleum lakes" of a similar nature to those on the Okha, the largest being 420 ft. by 1,400 ft. The "lakes" are, in reality, considerable areas covered with petroleum in a decomposed state, in parts liquid and in parts in the form of asphalt. In 1901, boring operations were commenced on the Boatasin; two petroliferous layers, both in sandstone, were discovered, the first at a depth of 150 ft. and the other at 237 ft. The holder of the mining rights for the Boatasin and Nutovo River oil fields has formed the China Oil Company, registered in HongKong, with head office in Tientsin, and a capital, German, British, and Chinese, of Tls. 420,000. Buildings are being erected, and systematic boring will commence on the arrival of new plant, consisting of a hand-boring plant for depths of 200 metres and a 600-metre steam-boring plant. The present intention is to build large containing tanks on the point at the mouth of what is known as Kleye Strait, and there to load the crude oil, which will be run in pipes from the Nutovo on to steamers. The company have already made arrangements in China and Japan which will ensure their obtaining a market for their output.

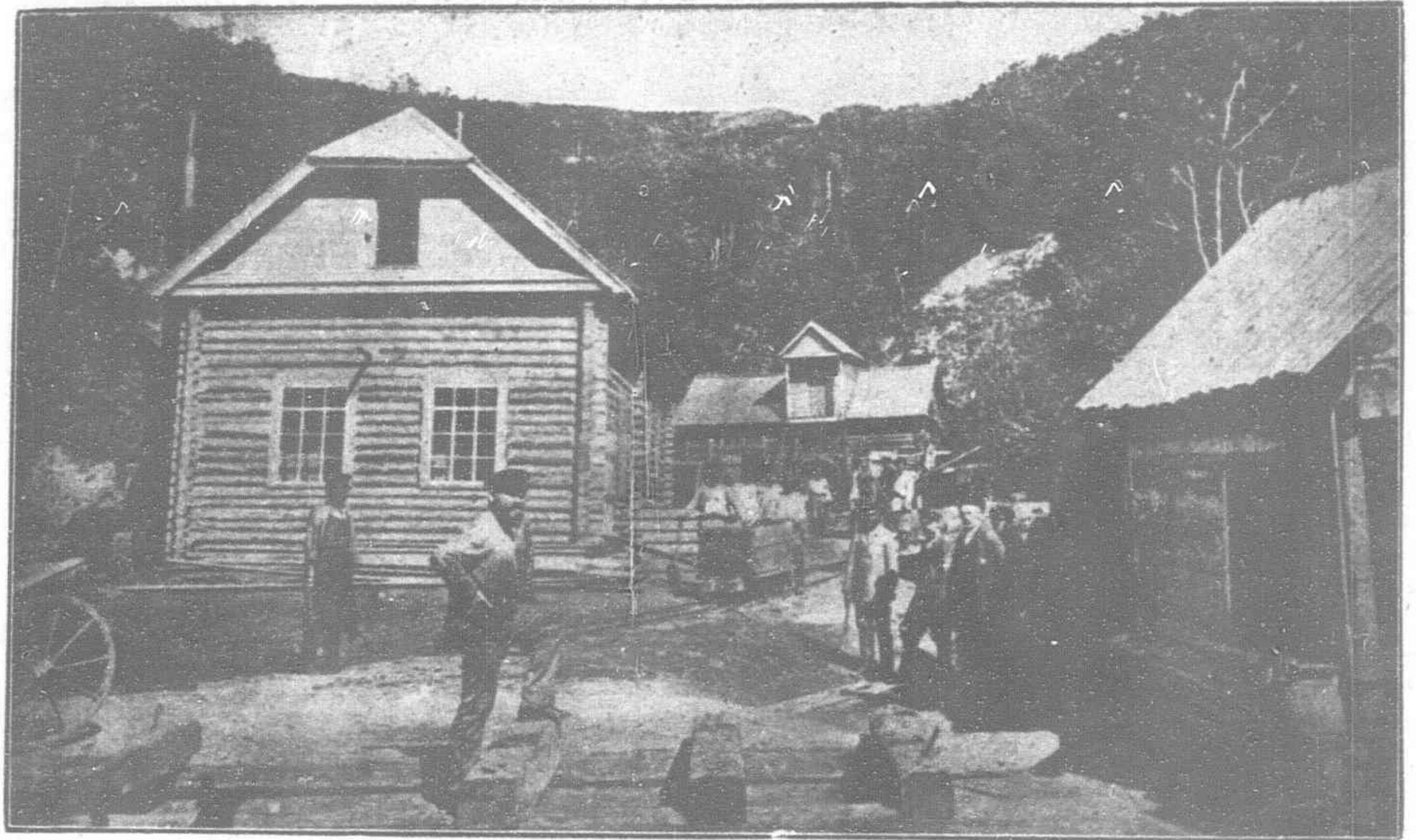
The Nabil Bay oil-field area consists of (a) deposits on the Noglik River, a tributary of the Imtchin, which runs into the Timi River close to its mouth, in the southern end of the Nisky Lagoon, and (b) deposits round the south-east corner of Nabil Bay. From a 26-ft. shaft sunk in the Noglik territory, 8 to 10 gallons of heavy dark green petroleum, full of carbonic acid gas, were obtained in 24 hours, the specific gravity being 0.9 at 17.5° C. Samples sent to St. Petersburg were pronounced to be suitable for kerosene.

A considerable number of persons have recently acquired mining rights in Saghalien. A Russian geologist who has recently been investigating the Nutovo area spoke highly of the prospects of the concessions granted to the first investigator of the Nutovo River deposits. From his study of the geographical structure of the island he formed the opinion that the level of the petroliferous strata was probably a deep one in comparison with that of the Japanese oil-fields, the first deposits being at not less than 600 ft. and the second layer at about 2,000 ft. He further believes the Saghalien petroleum to be rich in kerosene, containing probably 85 per cent. He thinks that the oil will probably not play in fountains, but will require pumping, as in Pennsylvania.

Taichusky Bay, or Kleye Skait on the East coast is the only harbor and on the West coast Baikal Bay is the only harbor.

TURPENTINE

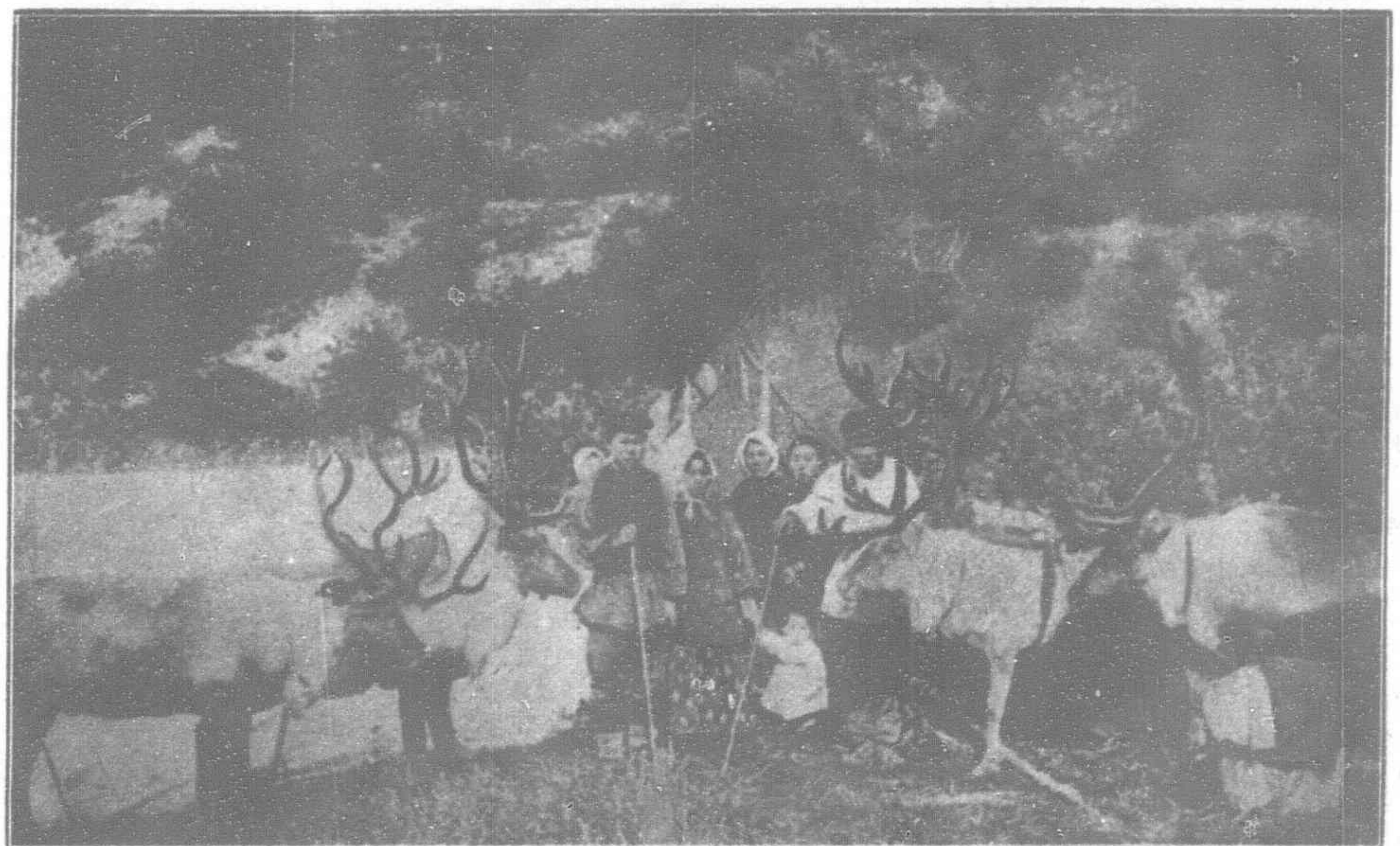
With reference to the experiments in turpentine extraction in Karafuto (Saghalien), the British Acting Vice-Consul at Hakodate (Mr. W. M. Royds) reports that, preliminary experiments having proved very successful, the manufacture of turpentine by the Government is shortly to be begun. Machinery for



SAGHALIEN: GOVERNMENT MINE WORKED BY CONVICTS



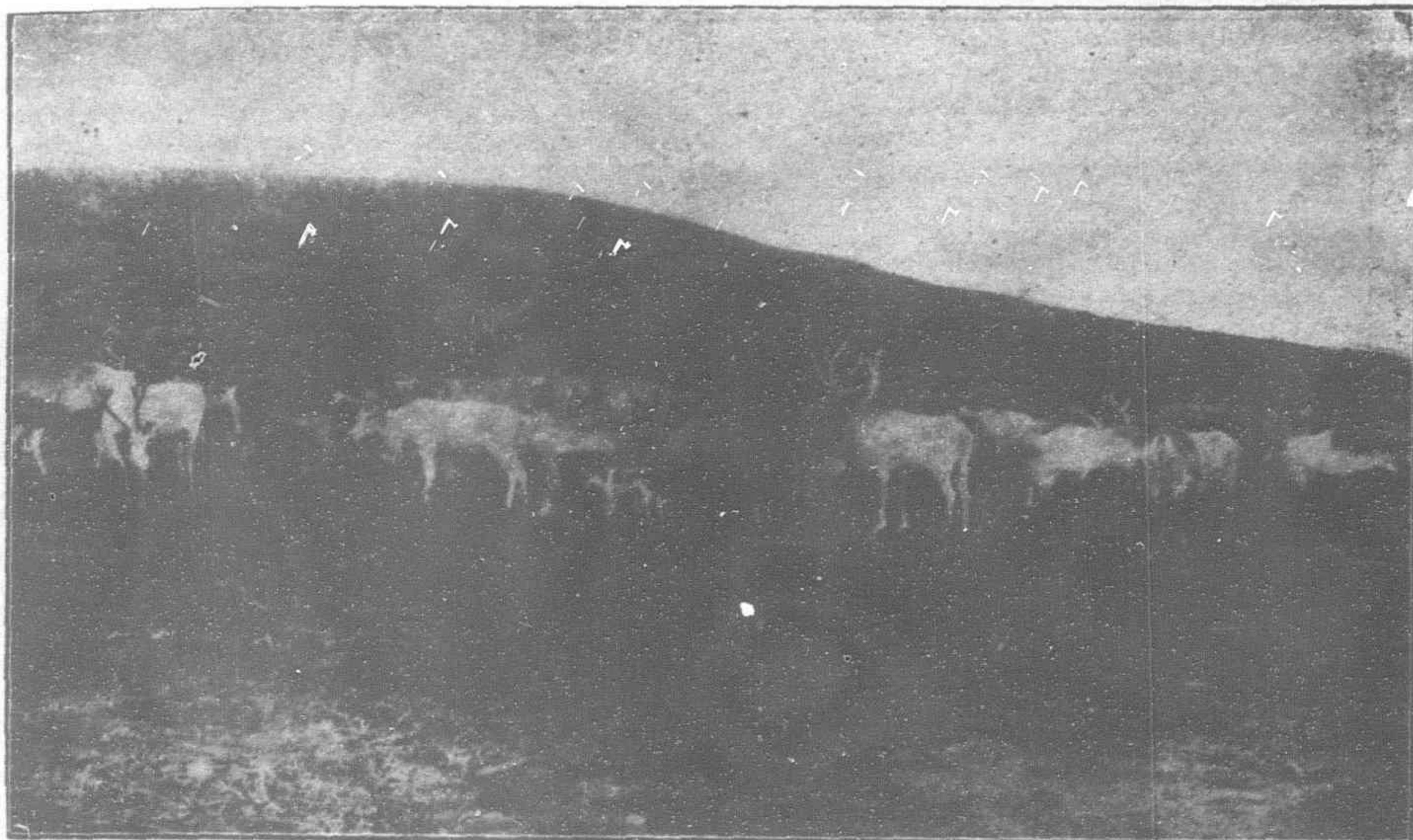
SAGHALIEN: CONVICTS AT WORK UNDER GUARD



SAGHALIEN: A NATIVE FAMILY

the purpose to the value of 150,000 yen (about £15,300) has been ordered. It is hoped eventually to produce a very large amount of turpentine, as the sources of supply are almost inexhaustible and consequently

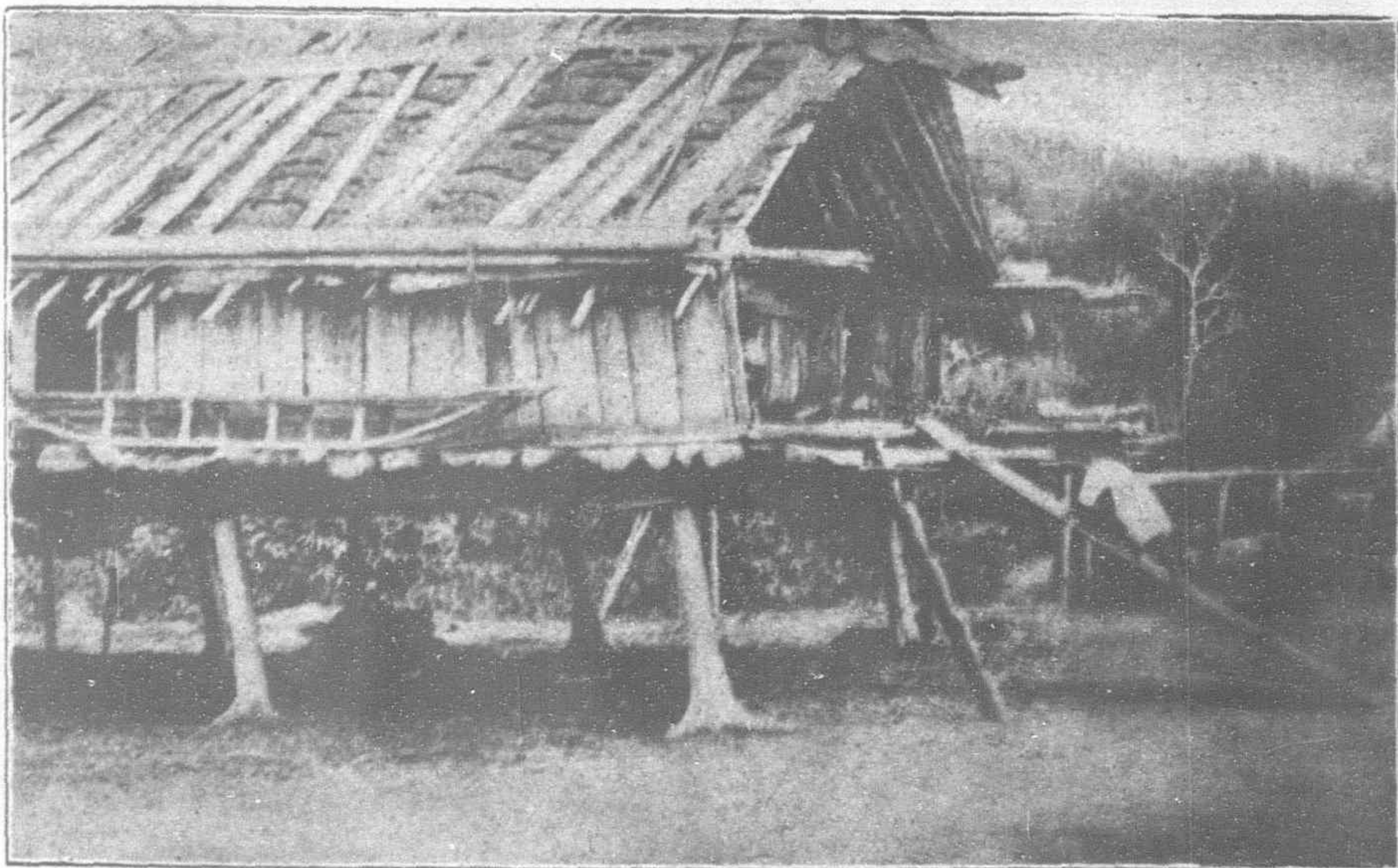
more machinery will doubtless be required later. In connection with the manufacture of turpentine at the Government laboratory, experiments are to be made in the manufacture of gun-cotton. The Acting Vice-Consul



SAGHALIEN: A HERD OF REINDEER



SAGHALIEN: WINTER HUNTING



SAGHALIEN: A NATIVE HUT

OTHER MINERALS

Next to coal, alluvial gold and pyrites are the chief minerals found in Karafuto. Alluvial gold exists in the beds of the rivers which flow down from the Taraika, Susuya and Shiretoko mountain ranges, and also at Aniwa Bay. Several concessions have been granted for working these deposits. Iron pyrites are found in large quantities in the Noto peninsula. Oil bearing lands have been discovered in the neighbourhood of Tokombo, Manka, and Arakoi, on the west coast.

SALT

Salt is plentiful in pure, crystallized deposits. A Russian official has already secured a concession for working a considerable area, and recent Government expeditions have discovered vast salt-fields in the northern portions of the islands. China is a splendid market for salt, and Siberia will be still more so, especially the region along the Amur River, where every year fresh fishery establishments are springing up.

The Russian concessionaire intends to co-operate with foreign financiers, and is understood to have already made some arrangements with an English firm at Yokohama and a Russian firm at Vladivostock.

FORESTS

There are also vast forests in Saghalien, of which the white fir, particularly adapted for paper manufacture, forms a large portion. If this timber went through the first stages of manufacture on the island, so that the raw materials could be exported as pulp, it could unquestionably easily compete with American pulp in the Chinese and the Japanese markets, considering the distance the American product has to be carried. The wood is also admirably suited for making tea caddies.

FURS AND FISHERIES

Costly furs, both brown and silver gray sables, can be obtained in considerable quantities in Saghalien, and a Japanese fur merchant in Alexandrovsky, who himself began as a hunter, is now a millionaire. Fox, bear and the deer are found in many places, and the sea-otter, whose skin is very costly, is found in the sea between Saghalien and Kamschatka.

The sea around Saghalien teems with herring, salmon, cod and flounder, but the only people who so far seem to have realized this wealth are the Japanese, who every year go in thousands on northward fishing expeditions. They arrive in the early spring and settle down on the coast of Saghalien to wait for the herring to arrive about the middle of May.

Constantine E. Pfaffius in the *Mining Magazine*, writing about the oilfields of Sakhalin, says:

"The enormous development recorded during the last 50 years in nearly every branch of industry has emphasized the problem of maintaining an adequate supply of fuel in manufacturing, mining, shipping, and naval spheres of activity. Among the better known combustibles, liquid fuel is steadily gaining in popularity and application, owing to the many advantages it possesses over coal and other solid fuels in the matter of ease of handling, cleanliness, and high calorific value. Last, but not least, crude oil, even under present antiquated methods of treatment, yields such a number of valuable by-products (lubricating oils, illuminating oils, and benzine, the demand for which is steadily increasing) that the prospector is always on the look-out for new sources of supply. The older oil-fields of South Russia and the United States, until recently the principal sources of the world's petroleum supply, have for some time been exhibiting signs of approaching exhaustion, although California is rapidly coming to the front and the Galician, Roumanian, Asiatic and other oilfields of minor importance are steadily advancing in output.

"The possibilities of Sakhalin, as a prolific and reliable source of oil, have recently attracted attention. Situated between 142° and 145° east longitude and, roughly, extending from

has forwarded samples of raw turpentine, extracted from the tree. "Larix dahurica Turcz," known in Karafuto as the "Rakuyosho," of refined turpentine oil produced at the Government experimental laboratory,

and of the resin left after the extraction of the oil: these samples may be seen by British firms at the Commercial Intelligence Branch of the Board of Trade, 73, Basinghall-street, London, E. C.

40° to 54° 20' north latitude, the island has approximately a length of 600 miles and a width of from 100 miles at its widest to 10 miles at its narrowest part. The parallel of 50° north latitude practically bisects the island into two more or less equal parts, Russian and Japanese, respectively.

"The northeastern part of the Russian portion of the island is alleged to contain one of the most extensive and reliable oil-belts in existence. The surface exposures consist of tertiary sandstone, but it has been proved by borings that older rocks lie beneath. Surface evidence of the existence of an oil horizon at depth is provided along the Pacific coast, commencing at Nabil Bay and extending to the northern extremity of the island—a distance of nearly 200 miles—from 6 to 12 miles inland, by a succession of lakes, seepages, sand hillocks, and plains the ground of which is saturated with oil. The oil is to some extent drained seaward by the numerous creeks and lagoons, but most of it evaporates on exposure to atmospheric influences and when mixed with grains of sand forms what is known in Russia as *keer*, a product resembling semi-solid asphalt.

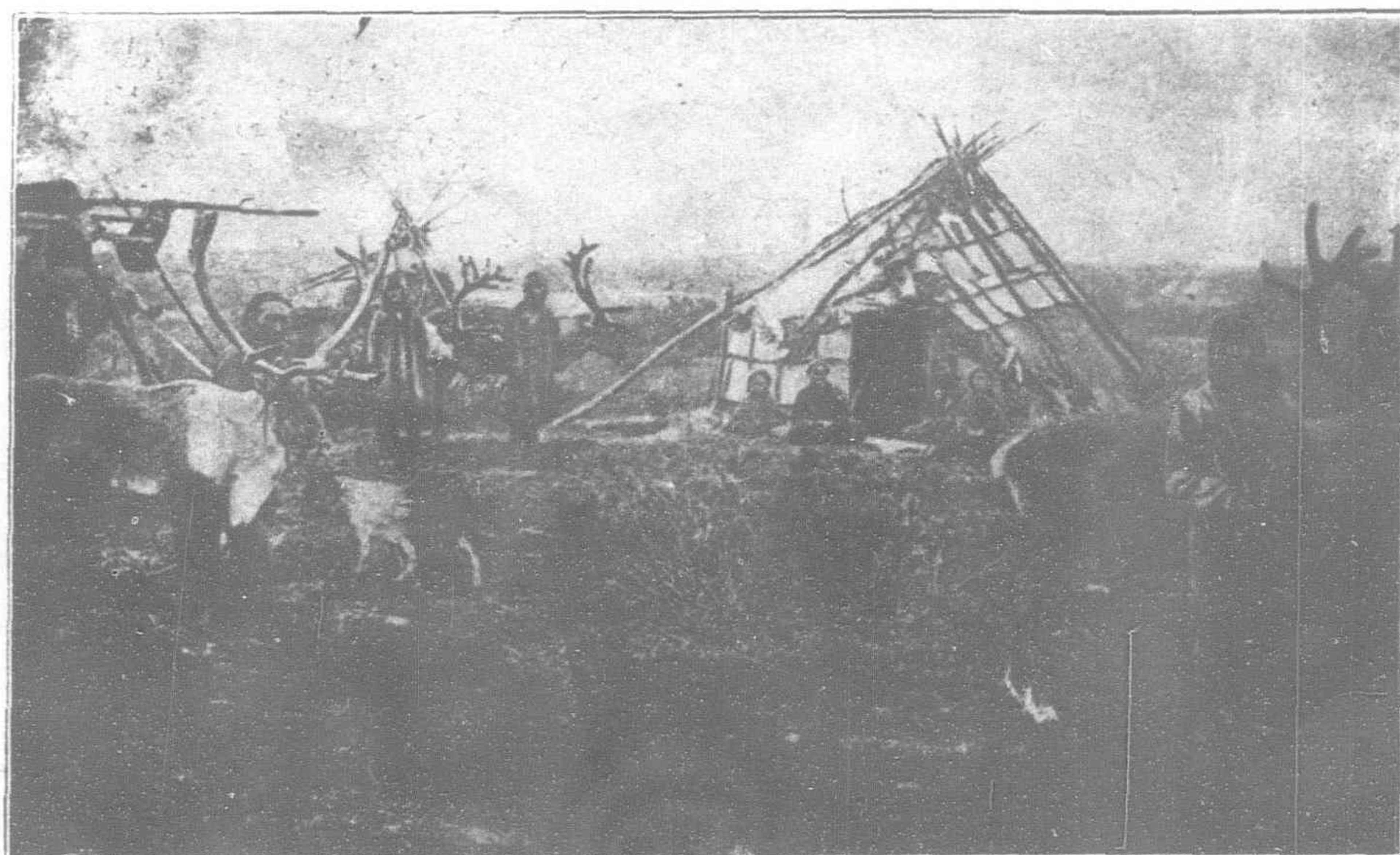
"The honour of having been the pioneers of the petroleum industry in Sakhalin is due to Messrs. Zotov and Kleye. However, they do not appear to have been particularly enterprising, nor to have had much financial backing. As yet they have not obtained any important results, although they have been drilling during a period of fully ten years. Claims have been staked by scores of other Russians, but these have done practically nothing in the sense of testing the ground, their sole aim being to hold their concessions until someone else succeeds in bringing in a gusher and then to dispose of their rights. The Russian government has stopped this indiscriminate claim-staking and now no one may be granted a concession to more than two plots of 100 acres each for prospecting purposes, and this right is subject to the locator sinking within the period of two years from the grant of the concession at least one well of a minimum depth of 600 ft., unless the oilbed be struck at a shallower depth on each claim. In the event of noncompliance with this stipulation the concessionaire forfeits his rights and the perimeter (claim) is confiscated.

"The establishment of a properly equipped petroleum industry on the island has been hindered by the prevalence during the greater part of the year of severe weather, such as a temperature of 20° to 40° F. below zero for 5 months, heavy snow-falls, and blizzards. These being the conditions, the capital outlay on buildings, workshops, material, tools, spares, provisions, and other equipment, practically excludes the small producer as a factor of any importance whatsoever in so far as the establishment of a petroleum enterprise in this part of the world is concerned. On the other hand, a financially sound enterprise would find here almost unlimited scope for extension."

Mr. C. W. Purington has kindly furnished the following additional data: "The most practical point for attacking the oil fields is Baikal Bay, on the northwest coast. This is a good harbour with a depth of from 24 to 36 ft., almost land-locked, in Lat. 53° 30' and fully open to navigation from May to October of each year. A pipe-line from the shore of Baikal Bay to the pitch lake of Hankes would not exceed 30 miles in length. The island is heavily timbered, well watered, and it has other natural resources of considerable importance. The fish-canners of Nikolaievsk maintain considerable establishments during the season both at Baikal Bay and at Lake Pronge. Small tugs and gasoline schooners ply back and forth between Lake Pronge and Nikolaievsk, a distance of about 100 miles. Japanese and Chinese labour is abundant. Owing to the lack of regular communication and the nearly uninhabited character of the region, the cost of an outfit delivered may be reckoned at three times what it is in California, while the cost of drilling will be five to six times as high. Up to the present the wells that have been drilled to 600 ft. have been unsuccessful, but indications point to the possibility that deep wells may tap reservoirs of valuable oil."



SAGHALIEN: FISHING THROUGH THE ICE



SAGHALIEN: NATIVE LIFE



SAGHALIEN: REINDEER SLEDS

"Further information about the petroleum resources of Sakhalin is given by Mr. D. A. Louis in a report describing his examination of properties made on behalf of Mr. Paul Dvorkowitz. These properties are situated on the rivers Boatesan and Nutavo which drain

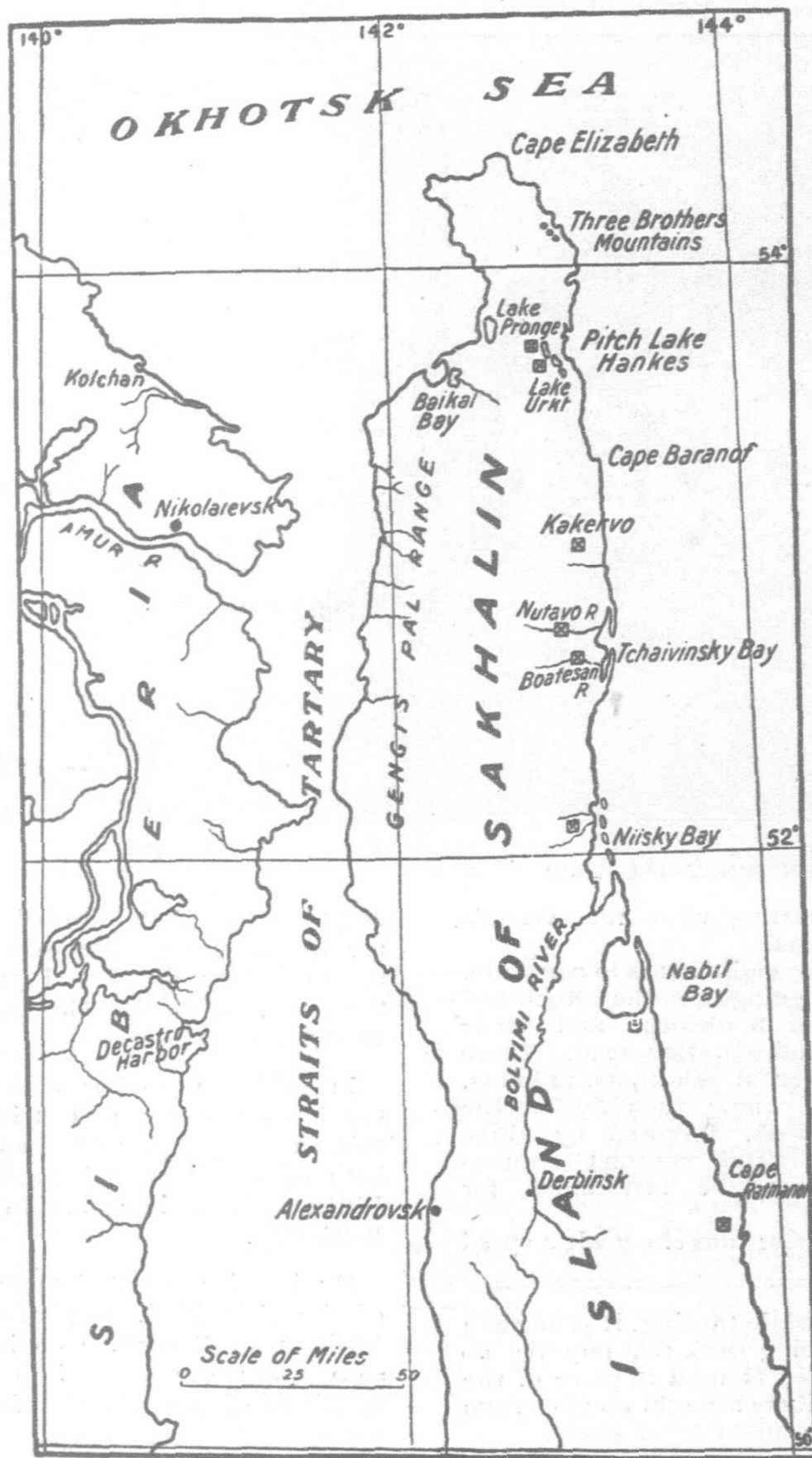
A Russian-Shanghai syndicate on the Zotov concession on Oha creek had a bore hole down 400 ft. with a hand rig. A small flow of oil was encountered and, encouraged by this result, the Syndicate expected to instal several power rigs during 1911.

total catch. Many Japanese schooners and various vessels come to Russian waters in the spring and remain until they have bought a full cargo which they salt for the Japanese market. There are also Russian refrigerator steamers which take cargo to the Baltic.

The principal source of revenue in the salmon fisheries is from the eggs which are prepared as caviare for the Russian market. On account of the wasteful methods of fishing the salmon are notably decreasing.

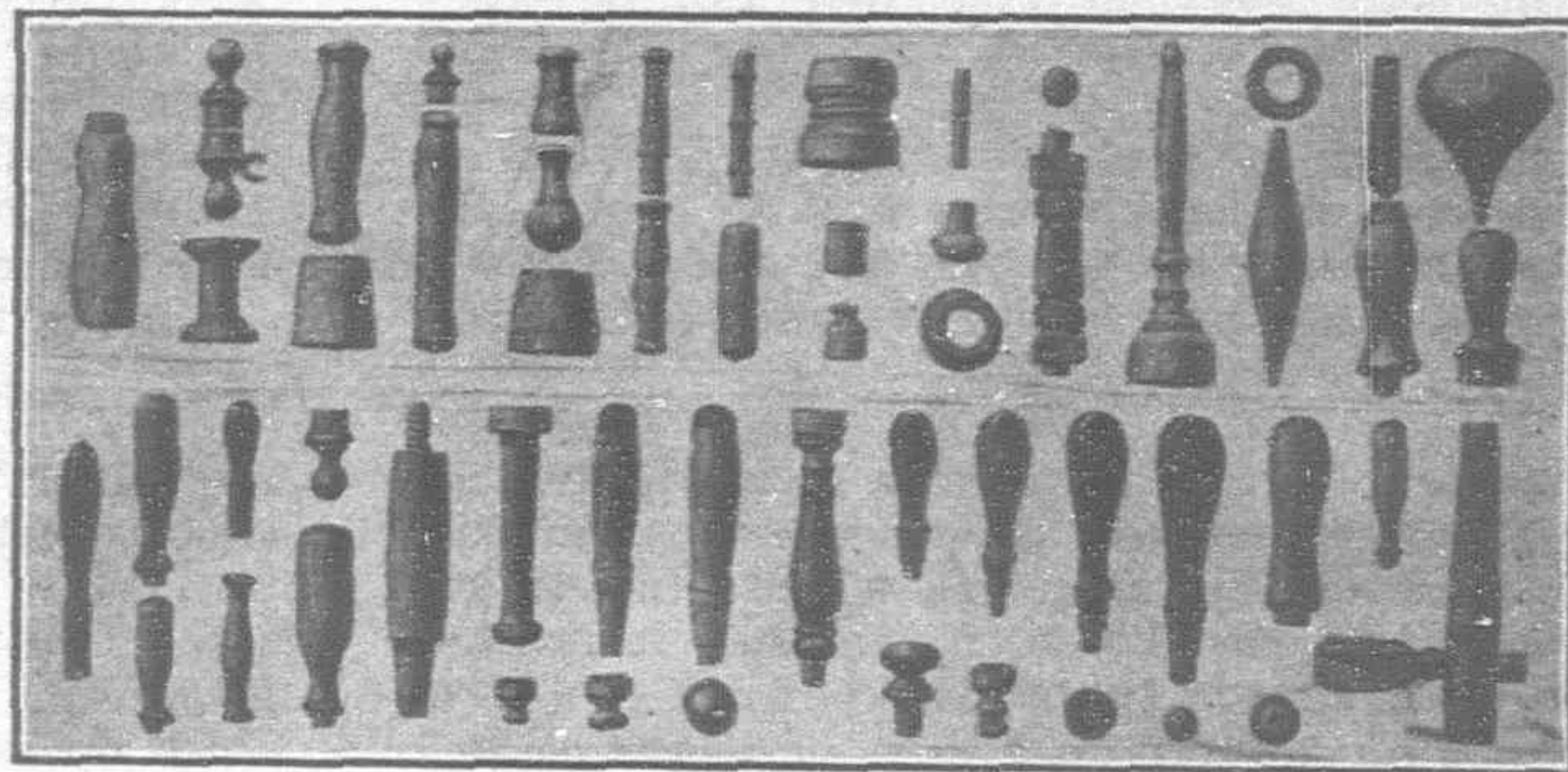
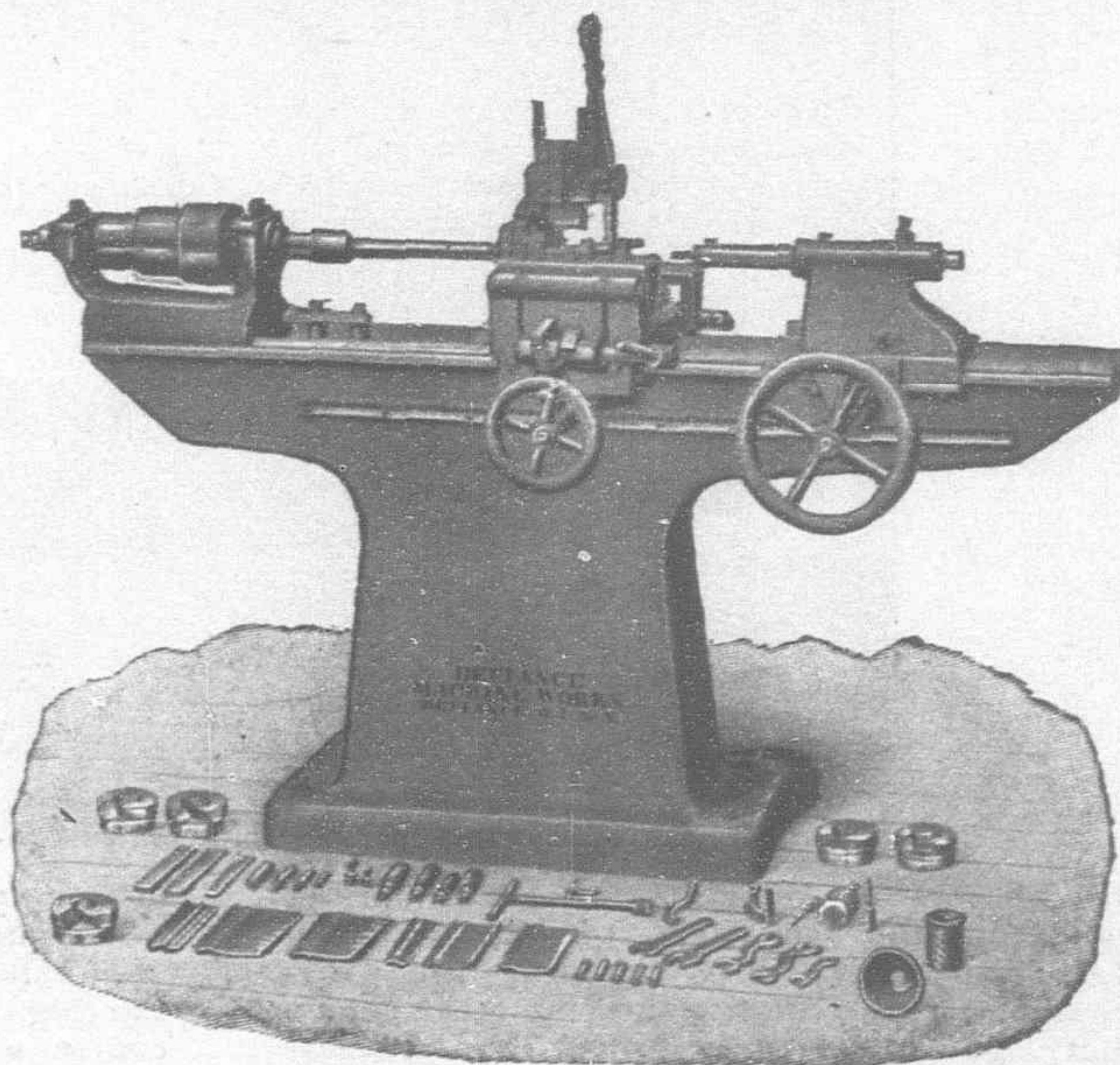
VARIETY TURNING AND BORING LATHE.

The illustration herewith represents the No. 0 Variety Turning and Boring Lathe, manufactured by the Defiance Machine Works



Sakhalin Oil Deposits.

Courtesy Mining Magazine.



into Tchaivinsky bay, now known as Kleye Strait. The former was originally discovered by Mr. Kleye as mentioned in the above article. The petroleum is found in pitch lakes in the midst of peaty swamps. The lakes are covered with a black crust and prospecting holes were dug through it at a number of places for the purpose of taking samples of the oil below. The oil thus collected is heavy and of high flash point; it contains practically none of the lighter spirit, which has presumably been evaporated long ago. On the other hand the oil contains no solid carbon and there is no asphalt associated with it, so that it may be considered as naturally filtered oil. In fact the oil closely resembles that found in Borneo, and arguing by analogy, Mr. Dvorkowitz is of opinion that the deposits will develop in the same satisfactory way. It will be seen that Mr. Dvorkowitz and Mr. Pfaffius do not agree as regards the presence of asphalt. The route for approaching this district is by steamer from Vladivostok to Alexandrovsk and then by government post road to the Bostimi or Tym River and then down that river by canoe to Kleye Strait."

During the year 1910 there were three oil companies actually drilling in Russian Saghalin and up to Oct. 1st the results were as follows:

The China Oil Co. in the Nutavao and Boatasin field had started several holes and commenced preparing shipping facilities. One hole had attained a depth of 130 meters with a steam rig and at that depth showed some oil.

A Russian-English syndicate in the Nahil Bay field, locally supposed to be a part of the Standard organization, were installing steam and hand rigs with English drill men on concessions controlled by Prince Radizwell.

Besides the above three organizations there were several other Russian syndicates exploring and locating claims.

Foreigners can not hold any oil or mineral claims in Saghalin or in Siberia except by special permission granted through the Governor General of the province and the Council of Ministers in St. Petersburg. This permission is hard to obtain. Foreign labor, other than Chinese, is prohibited except by special permission of the Governor General.

Charters can be obtained from the Russian Government for share companies in which the majority of the holdings can be in foreign name, but the company must be Russian and the managing director a Russian subject.

The fishing rights on the Siberian coast and Saghalin are sold to individuals at rates fixed by the Government. Certain places are allotted to Japanese and the latter buy most of the

of Defiance, Ohio, which has been designed with the greatest care to embody in it all the essential features to make it a high class machine for rapidly and accurately producing turned articles from wood. Never before has there been a machine invented for producing light fancy turning and boring that would fully meet the demands of manufacturers who wish to produce turned work, sharp, clean, and smooth, in either plain or beaded turning, and do the work so that no hand labor is required after leaving the machine.

This machine is calculated to cover a wide range of work. A few samples as produced with it are shown by the accompanying engravings, although it is by no means limited to these samples. The material from which the work is turned is placed into the machine in short or long pieces, not to exceed 36 inches at the longest, and it is converted into the finished article, bored, turned, polished, and cut off complete ready for use. The design of turning is governed by the shape of the finishing knife used. It requires a special shaped knife for each article of different design to be turned. The shape of turned work desired to be made is milled the full length of the knife, so that the exact

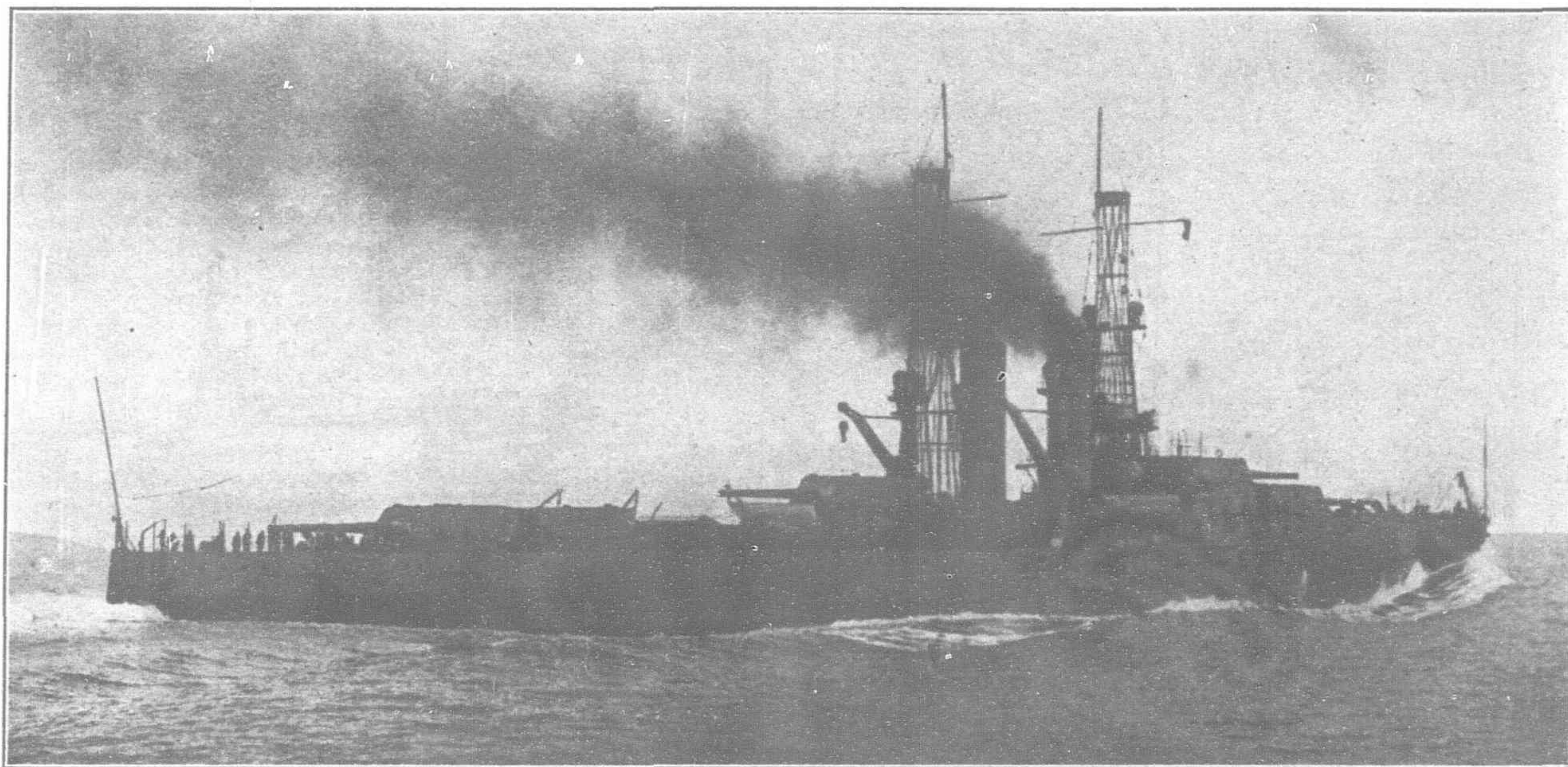
U. S. BATTLESHIP UTAH MAKES 21.63 KNOTS

Twenty-one-and-a-half knots an hour—21.637 to be exact—was the record maximum speed attained by the newest and biggest and fastest battleship of the American Navy

ment circles centred in the work of the Utah's Parson's Turbine Engines, the fate of such means of propulsion for giant war-craft and, in short, the efficiency of the turbine engine over

of 10,556 knots, on three others, 12,015, on another group of three, 16,799 knots, and in still another, 19,049. In addition to these there were five top speed runs and three at cruising speed.

During the top speed runs the Utah averaged 31.288 knots. Her contract requires



THE S. S. UTAH ON HER TRIAL TRIP

now afloat—the Dreadnought Utah, in her standardization trial trip off the coast of Maine yesterday, thus exceeding the Government speed requirements by more than a knot. The news was flashed by wireless from aboard the giant craft direct to officials of the New York Shipbuilding Co., in Camden, her makers, upon the completion of the tests.

Aside from the gratification of the builders in the successful accomplishment of the first day's trials, interest of the country-at large and particularly among shipbuilding firms and in Govern-

ment circles centred in the work of the Utah's Parson's Turbine Engines, the fate of such means of propulsion for giant war-craft and, in short, the efficiency of the turbine engine over

former equipment resting upon the vessel's behaviour in her trials. The test required eight hours to complete, the big battleship going on the Rockland course a little after 8 o'clock, and made 20 runs as her standardization trial. There were three runs each at ten knots, 12 knots, 19 knots, and 20¾ knots, then five at the highest possible speed, followed by three runs at 16½ knots. Her contract requirement is 20¾ knots, to be maintained for four hours.

During three of these runs she made a speed

20.75 knots. Tests showed 329.17 propeller revolutions per minute necessary to maintain the maximum speed and 314.5 necessary for the contract speed. The engines developed 28,477 horse power.

In addition to her standardization runs, the Utah was given a trial displacement, this showing 21,247 tons, and an anchor-test, both of which proved satisfactory. Captain William G. Randle was in charge of the Battleship.

On board were DeCourcy May, President of the New York Shipbuilding Co., Captain William S. Benson, who is to command the ship when she goes into commission, the members of the Board of Inspection and Survey, and others.

The next day the Utah had a four hour run at a maintained speed of 20.75 knots and a two-hour run at the same speeding burning both coal and oil.

The battleship is 98.4 per cent completed and it is now expected that she will be ready to go into commission about August 19. In addition to annexing the title of the fastest battleship in Uncle Sam's Navy, and possibly in the world, considering her size, the Utah has, without apparent question, fully demonstrated the worth of her turbine engines, with ten of which she is fitted.

The receipt of the news of the speed trials at the Camden plant gave rise to the greatest gratification among the officials of the firm, and none the less among every foreman, superintendent, carpenter, riveter, mechanic and laborer, that had a hand in putting together this greatest of war craft, which exceeds by 1825 tons the Delaware, the 20,000 tons dreadnought which carried off all laurels in point of size at the recent review of representative vessels of the world by King George V and his Queen at Spithead.

The wireless flash was forwarded by the wireless operator on the Utah's deck and was relayed to the station at Atlantic City, and thence to the wireless station at the shipyard.

duplicate of work is always secured, and in sharpening the knife it is only necessary to dress the cutting edge, thus reducing it to the simplest possible form so that it can be handled successfully by inexpensive labor.

The frame of this machine, of neat design, is cast in one piece with cored center and a broad floor base to stand firm. The top is accurately planed and scraped to bearing for the working parts.

The head spindle, of steel, runs in large bronze, self-lubricating bearings, and it is driven by a three-step cone pulley, giving three changes of speed for small or large work. The front end of the spindle is fitted with a screw chuck to hold one end of the material to be turned, the other end turning in the roughing head bush.

The cutter head carriage is thoroughly gibbed to the top of the frame of the machine, and it is provided with a horizontal movement by hand-wheel to move the cutters to where the turning shall begin. It also has a right angular movement by hand lever, to move the finishing knife to the work.

The roughing cutter is attached to the carriage immediately in advance of the finishing knife. It reduces the square material to the smallest diameter to which it will nicely finish. The cut-off attachment is also fitted to the carriage and travels with it. It stands in a vertical plane and is brought down to its work by a convenient hand lever.

The tail stock is gibbed and accurately fitted to the top of the frame, central with the head spindle. It is fitted with a large spindle to carry a boring bit to bore holes of different sizes. When work is intended to be bored, the boring is performed before the turning is accomplished, leaving the bor-

ing bit in the hole while turning, it acting as a steady rest. For doing work that requires no boring, a cup center is used in place of the bit. The tail spindle is brought up to or from its work by a convenient hand-wheel.

In operating this machine, the square material to be turned is placed into the chuck while the machine is in motion. No stoppage is necessary either to place in the rough material, or to take out the finished product. The material is first roughed by sliding the carriage forward in a horizontal plane a sufficient distance to suit the length of the article to be turned. The boring is then performed, after which the finishing knife is brought up to the work, which is shaped complete at one movement. The cut-off knife is then brought down by hand lever and the finished product is discharged from the machine, and so the work is continued until the material in the lathe is entirely consumed.

The capacity of this machine is sufficient to produce from 5,000 to 8,000 pieces per day, depending upon the size and shape of work and the quickness of the operator. It will turn irregular work eight inches long and shorter, but plain round work, such as rollers, pins, etc., can be turned up to 36 inches long, and from 1/8 inch to 3 inches diameter.

The counter is furnished as follows: Shaft, 11-16 inches by 42 inches; two No. 2 ball and socket adjustable drop hangers; one improved belt shipping apparatus; one step cone pulley, 14 inches, 15 inches and 16 inches diameter, for 3-inch belt; the tight and loose pulleys are 10 inches by 4 inches; speed, 650 turns per minute.

Horse power to drive, 2; floor space occupied, 28 inches by 78 inches.

THE NEW PORT OF MANILA AND THE LUNETTA EXTENSION

Continued effort on the part of the Philippine Government to provide Manila with modern port works and a warehouse district conveniently located for the storing of goods

every step has more than fulfilled the expectations of the authorities.

All these improvements are along the lines proposed to develop at Manila a great distri-

The immediate development in the warehouse area immediately in touch with the wharves includes the large godowns erected by Messrs. Derham Bros., the first private



THE ELKS' CLUB

THE ARMY & NAVY CLUB

BOTH BUILDINGS ARE CONSTRUCTED OF REINFORCED CONCRETE—THE KAHN SYSTEM OF THE TRUSSED CONCRETE STEEL CO. OF DETROIT WAS UTILIZED IN THE A. & N. BUILDING

with facilities for economic distribution throughout Luzon finds expression today in the wonderful development in building construction on the reclamation in conformity with the government's purpose. The improvements along the bay shore, however, are not confined to plans for the new port. The Luneta extension which two years ago offered little attraction is now the club center of Manila and on the north end the new Manila Hotel representing an outlay of ₱1,000,000 will be completed and thrown open to the public by the end of the year. All these improvements are but the beginning of the Government program, but so far as progress has been made

buting center for the Orient and are illustrative of the scope of the administration's policy in the direction of trade encouragement.

The new port reclamation covers an area of 192 acres approximately. It is served by a harbor capable of accommodating the largest vessels in the Pacific carrying trade and is equipped with wharves for the expeditious loading and discharge of cargo. Two steel wharves have been built by the Insular government and two new piers are under way to accommodate the steadily increasing trade of the port. The Federal Government, also, has constructed large wharves and warehouses on the fill to accommodate the U. S. Quartermaster service.

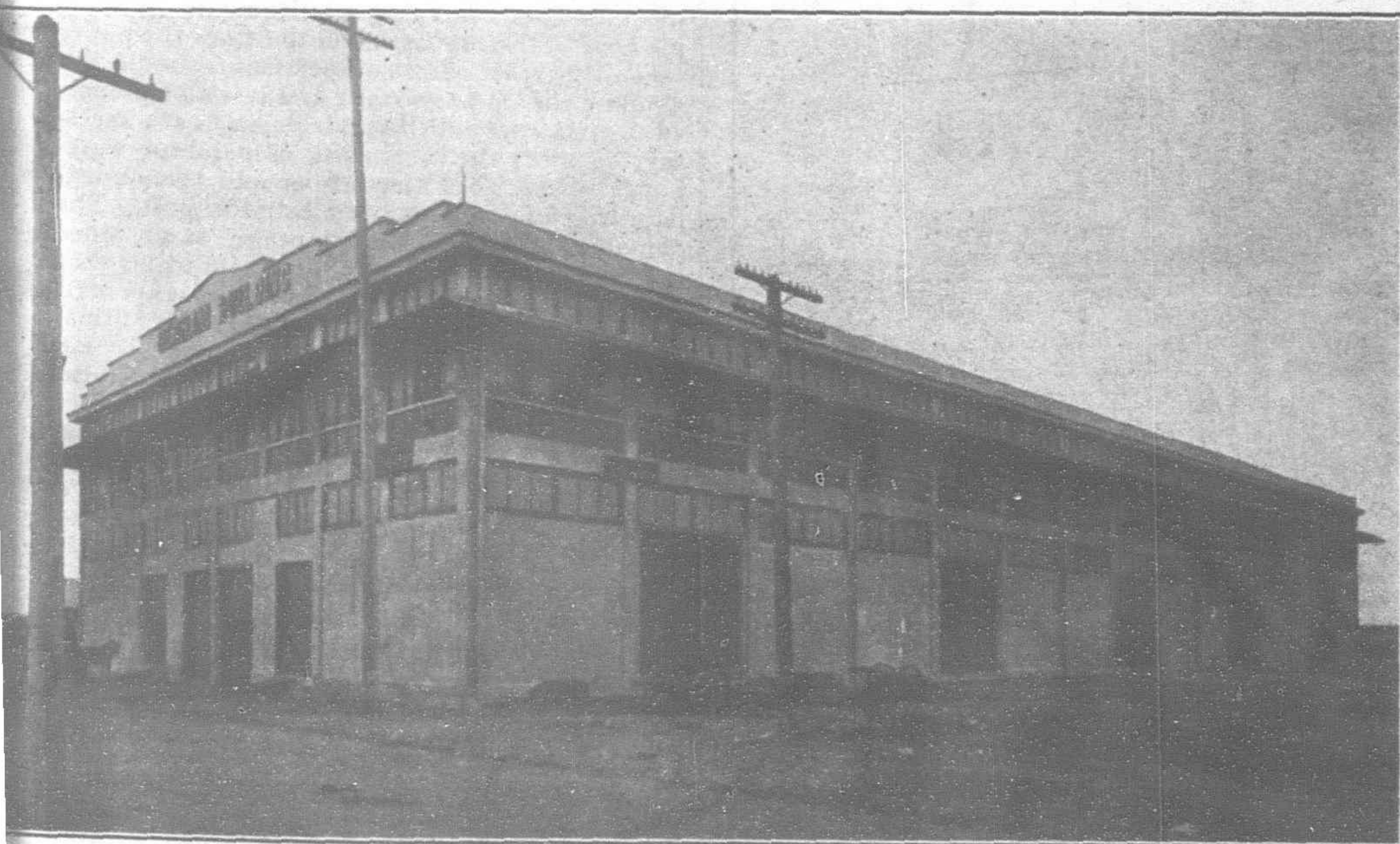
enterprise in this direction, while the Bureau of Supply is expending ₱450,000 in providing warehouses for government supplies in that vicinity. The plans for the new Custom House, to be erected conveniently to the wharves, have been approved and preliminary construction under way. Besides these buildings a number of private enterprises such as garages, etc., are being located in the new warehouse center.

The preliminary surveys for the Electric Railway and the Manila Railroad Company's extensions have been approved. The latter includes a huge steel bridge across the Pasig to connect the port with the entire system of steam railways throughout Luzon. Cars will be loaded at the wharves and warehouses and delivered directly to any point along these lines while delivery to any point in the city will be made expeditiously over the electric lines.

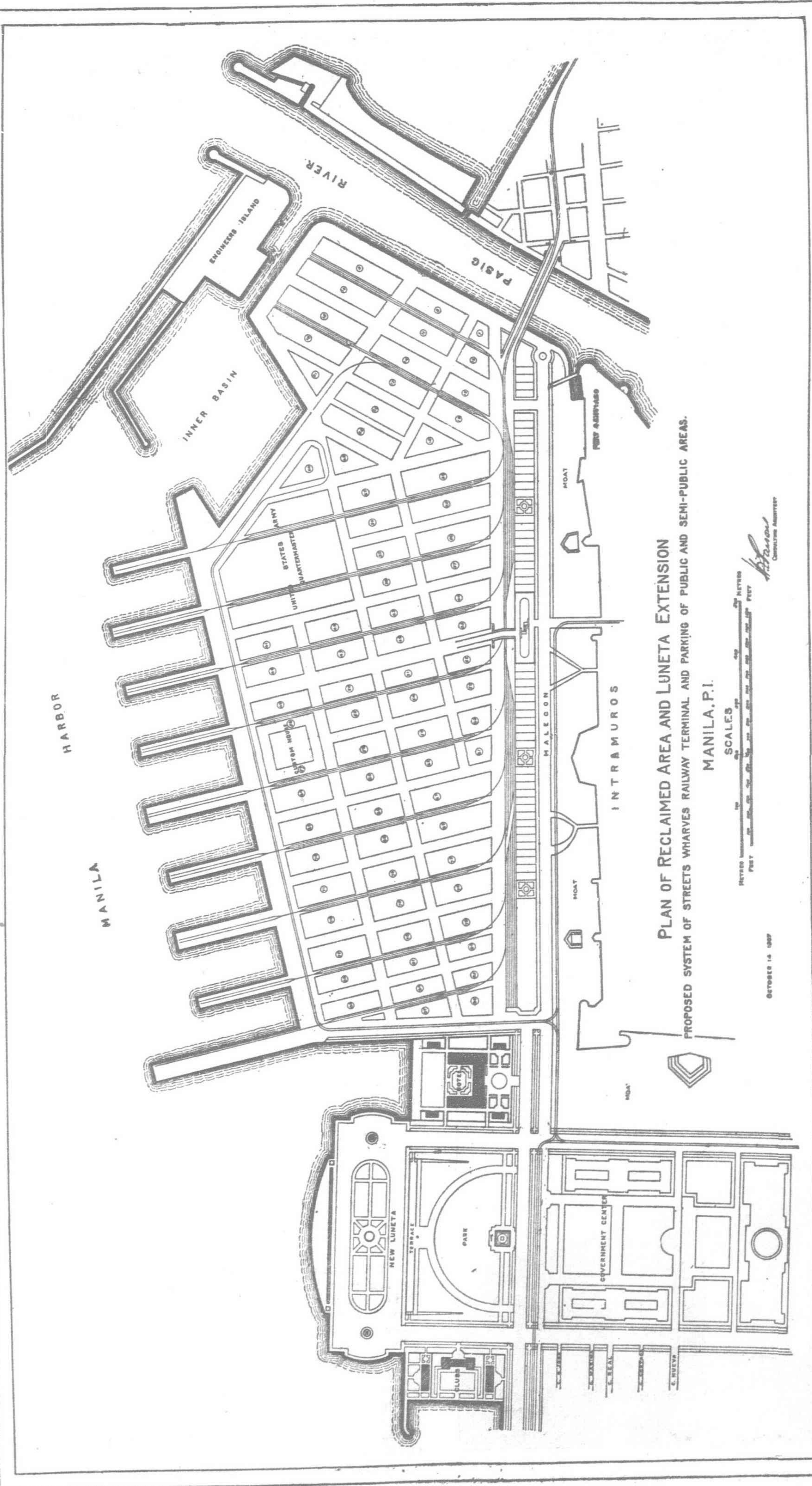
One special feature of the new private warehouse enterprises will be their detachment from participation in wholesale or retail enterprises, which has heretofore characterized the direction of godowns in the city. The firms engaged will simply store the goods to order of consignees at tariff rates. This will greatly facilitate receipt of large shipments of goods on consignment to small dealers so that the goods may be released in such quantities as they are required. The burden of expense of carrying large stocks for long periods will thus be obviated and manufacturers will find the warehouse system a source of great convenience in handling Philippine business. It is also not improbable that this warehouse system will appeal to firms now maintaining their own godowns as a matter of convenience and economy, thus greatly extending the warehousing enterprise in this section.

The Luneta Extension.—This new fill covers an area of 292,000 square meters which includes the hotel and club sites, the boulevard and the park and drive features.

The hotel site includes 20,573 square meters, the Elks' site 9,558; another club site not assigned 4,543; all building sites, while a public garden covering 11,376 meters on the sea side



LARGE WAREHOUSE CONSTRUCTED BY MESSRS. DERHAM BROS. ON THE NEW PORT.



of the hotel has been laid out. The remainder of the Luneta Extension is laid out as follows:

New Luneta.....	79,000 Sq. Meters.
Grand Plaza.....	76,000 " " "
Boulevards.....	87,300 " " "

Then there is the Cavite Boulevard running from the Extension along the Bay Shore which is well advanced and will make one of the most delightful driveways in the tropics when completed.

All the buildings are constructed of reinforced concrete. In the construction of the Army and Navy Club, the Kahn system of reinforcement was utilized, the steel being supplied by the Trussed Concrete Steel Company of Detroit. The total building construction on the Luneta Extension represents an outlay to date of approximately ₱1,750,000.

NUCLEUS OF MANILA'S NEW WAREHOUSE DISTRICT

Following the initiative of the Insular Government in providing a modern harbor and wharves for the economical and expeditious handling of cargo, Messrs. Derham Bros., one of the leading American firms in the Philippines, demonstrated their faith in Manila's future and especially in the department of foreign trade, in a most substantial manner as evidenced by their large and splendidly equipped warehouse and office building facing the Government wharves and opened on July 1.

The building is a two storey structure, 125 feet by 250 feet, and of reinforced concrete construction throughout.

The first floor is divided into two equal sections by a trackway connecting the wharves with the bodega and running through the center the total length of the building. On one side of the trackway the entire space is devoted to a public bonded warehouse and on the other side, a free warehouse for the general public. Each of the two warehouses above mentioned are partitioned into five sections of 50' x 52' for the reception of different classes of merchandise. Each section is absolutely dust proof and goods are received directly from the cars on the trackway from the wharves by the section to which they are assigned and when released are delivered to the importers' trucks from doors on the side of the building, the reception and discharge of merchandise for each section being entirely independent of the other sections, eliminating confusion and preserving goods stored from exposure. The heavier freight is stored on the first floor. The space available for storage on this floor is over 26,000 square feet.

The second floor is divided into two equal sections of 125 x 125. The front section facing the Government wharves is set aside for office suites and the back section for a free bodega where lighter merchandise is stored. A freight elevator connects the second floor with the trackway, of sufficient capacity to meet all goods carrying requirements. It is the purpose of the management to fit out the entire second floor in office compartments should the demand for offices warrant and it is also prepared to construct additional bodegas as are necessary to meet the increasing demand for warehouse space and the proper and economical handling of goods coming into the port. The demand for office and storage space since the opening of the building indicates that the firm in preparing for expansion exercised the best possible judgment. Shipping firms, brokers, wholesale houses, etc., have become interested and the new port has taken on unusual indications of activity and permanency.

The transportation facilities from the new wharves to the Derham Bros. bodegas consist of a 3' 6" gauge railway, the standard gauge of the Philippine steam railways. The tracks run directly through the center of the building so that it might be said to be a central bodega for the island of Luzon as a car may be loaded there when connections with the new port are completed, and delivered over the Manila Railroad Company's lines to any point on the system.

On the other hand, the Manila Electric R. R. & Light Company is connecting the new port with the Manila city system and spur tracks are to be built on either side of the bodega so that goods may be placed on board for delivery in any part of the city.

THE MANILA HOTEL

With the close of 1911 and the opening of 1912 will be thrown open the doors of the "Manila," one of the Orient's most modern and pretentious efforts towards attracting and caring for the tourist and globe trotter.

The external appearance of the Manila Hotel is well represented in the illustration shown with this article, with the exception that roof gardens have been substituted for the roof as originally planned and shown.

The building rests on a foundation of piles of native timber extending to an approximate depth of 16 meters below grade. The load carried by each pile does not exceed one-sixth of its full bearing value. These piles are capped (below the point of permanent saturation) with a continuous concrete course binding the entire structure together. From this the walls of the building run continuous, reinforced with steel. The entire structure including the floors is of reinforced concrete, with the exception of the roof trusses on the four corners, not devoted to roof gardens, which are of wood, with tile roofing. Wood floors where used are laid on strips embedded in the concrete floor slabs. Only the main rooms and ground floor will have wooden ceilings. The balance of the rooms have concrete partitions, or walls, and plastered ceilings on underside of concrete floor slabs.

The location of the hotel is ideal, situated as it is at the entrance of the new Luneta Green and is approached from the north Luneta boulevard through the spacious circular drive leading up to the entrance. The visitor enters under an artistic, broad, marquee or canopy, which covers the main entrance and four of the great arched openings on either side, of which there are nine on the frontage. Six steps lead the main lobby level. This brings the lobby floor about three and a half feet above the level of the drive and surrounding lawns. There is also a side entrance, approached from the Cavite boulevard, passing between sunken gardens, to the east wing of the building.

The main entrance faces the new Luneta Green and is approached from the north Luneta boulevard through the spacious circular drive leading up to the entrance. The visitor enters under an artistic, broad, marquee or canopy, which covers the main entrance and four of the great arched openings on either side, of which there are nine on the frontage. Six steps lead the main lobby level. This brings the lobby floor about three and a half feet above the level of the drive and surrounding lawns. There is also a side entrance, approached from the Cavite boulevard, passing between sunken gardens, to the east wing of the building.

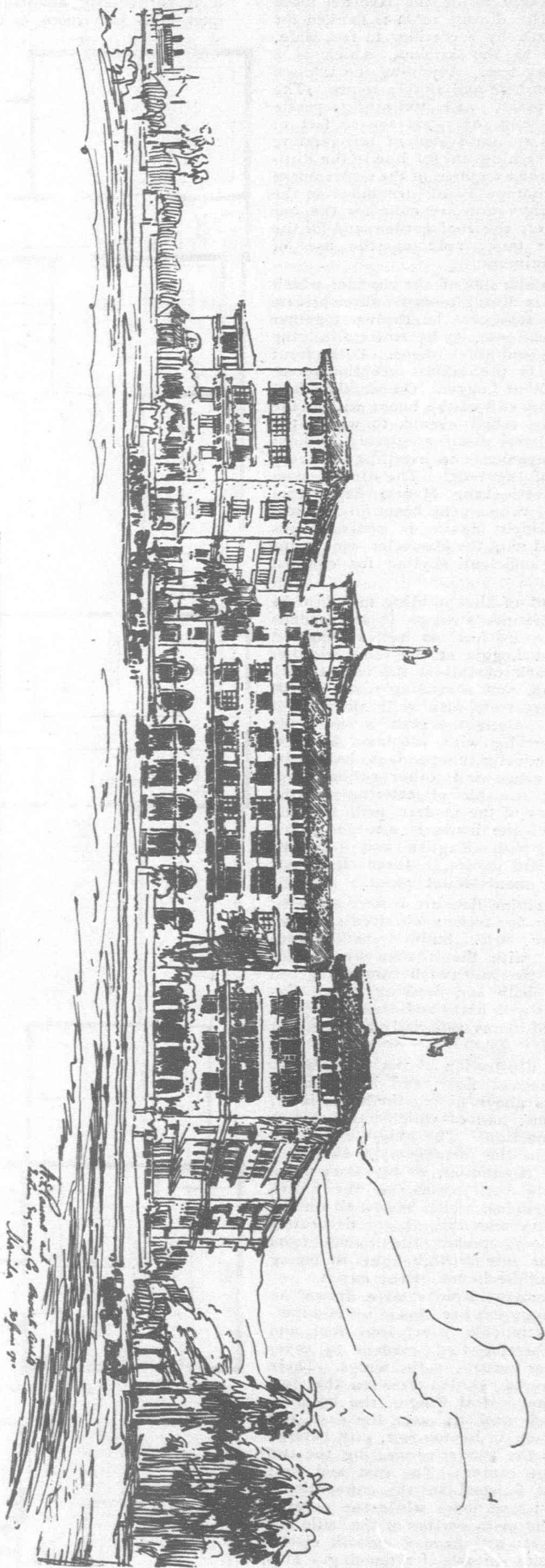
The most impressive architectural features of the first floor are the great arches and pillars, in the main entrance and lobby, which is 24 by 135 feet. Directly in front of the entrance the general office and clerks' counter, to the left the manager's private office, and to the right the telephone room, with its four private booths. From the office lobby are located the two main staircases to the mezzanine floor, one to the east and the other to the west wings. At each end of the main lobby are the electric passenger elevators and booths for the sale of such indispensables and curios as every guest looks for in the modern hotel. To the rear and directly behind the general office is the service hall and stairway, service elevator, trunk room, furniture storeroom, and servants' sleeping and dining rooms.

The dining room, which looks out on Manila Bay, is 40 by 75 feet, surrounded by a

Where the development of the new port has not reached a very advanced stage, the year 1911 will see a wonderful advancement, judging from present activity. The port is to be connected with the Manila Railroad Co.'s lines by a bridge across the Pasig River and construction will soon be under way; the new Manila Custom House in front of Pier 5 is under construction; the Bureau of Supply is erecting bodegas and several large exporting houses are preparing plans for a number of buildings. The Philippine Government is constructing additional piers to accommodate the increasing shipping trade of the port and altogether a practically new warehouse district along the most modern lines is developing.

Messrs. Derham & Co. may be said to have taken the initiative. They had all the difficulties incidental to pioneer work anywhere but good judgment and enterprise do not lack evidence of substantial reward.

THE MANILA HOTEL TO BE OPENED BY THE END OF 1911.



veranda intended for use as an auxiliary, weather permitting. However the climate is such in Manila, during most of the year, that this is likely to be the favorite place for dining. The dining room is flanked for its entire length by a corridor 12 feet wide, leading direct to the kitchen, which is a room 42 by 43 feet. Adjoining the kitchen are the cold storage and supply rooms. The cold storage plant, with its nine separate compartments and over 700 square feet of floor space; its modern system of refrigeration outclasses everything in its line in the Philippines with the exception of the Government Ice & Cold Storage Plant. Included in the system of refrigeration are coils for the bar room, buffet on the roof garden, and for the distilled water tank, reducing the use of ice to the minimum.

On the opposite side of the corridor which flanks the main dining room are three private dining rooms that can be thrown together into a banquet room, 43 by 20 feet, and the ladies' retiring and toilet rooms. At the front of the house is the ladies' reception room, otherwise the West Loggia. On occasions it is certain that this end of the house will be the scene of many social events, to which the arrangement lends itself admirably without sacrifice of convenience in handling the every day business of the hotel. The dining room faces west, overlooking Manila Bay, from which point of vantage the beautiful tropical sunsets for which Manila is justly famous may be viewed with the Mariveles mountains creating just sufficient skyline for contrast and foreground.

The east end of the building may best be described as the men's wing. It corresponds in size, 30 by 45 feet, as well as location with the West Loggia at the other side of the house. Back of this is the bar, a haberdashery shop, and a reading room, a grill room, 30 by 45 feet, with grill alcove and service room. While the grill is connected by service corridor with the main kitchen, it will be practically independent, having its own broiler, range and other culinary apparatus, fully capable of catering to the fastidious tastes of the modern grill habitué. In this part of the house is also located a billiard room, with English and American pool and billiard tables, a three chair barber shop and men's toilet room.

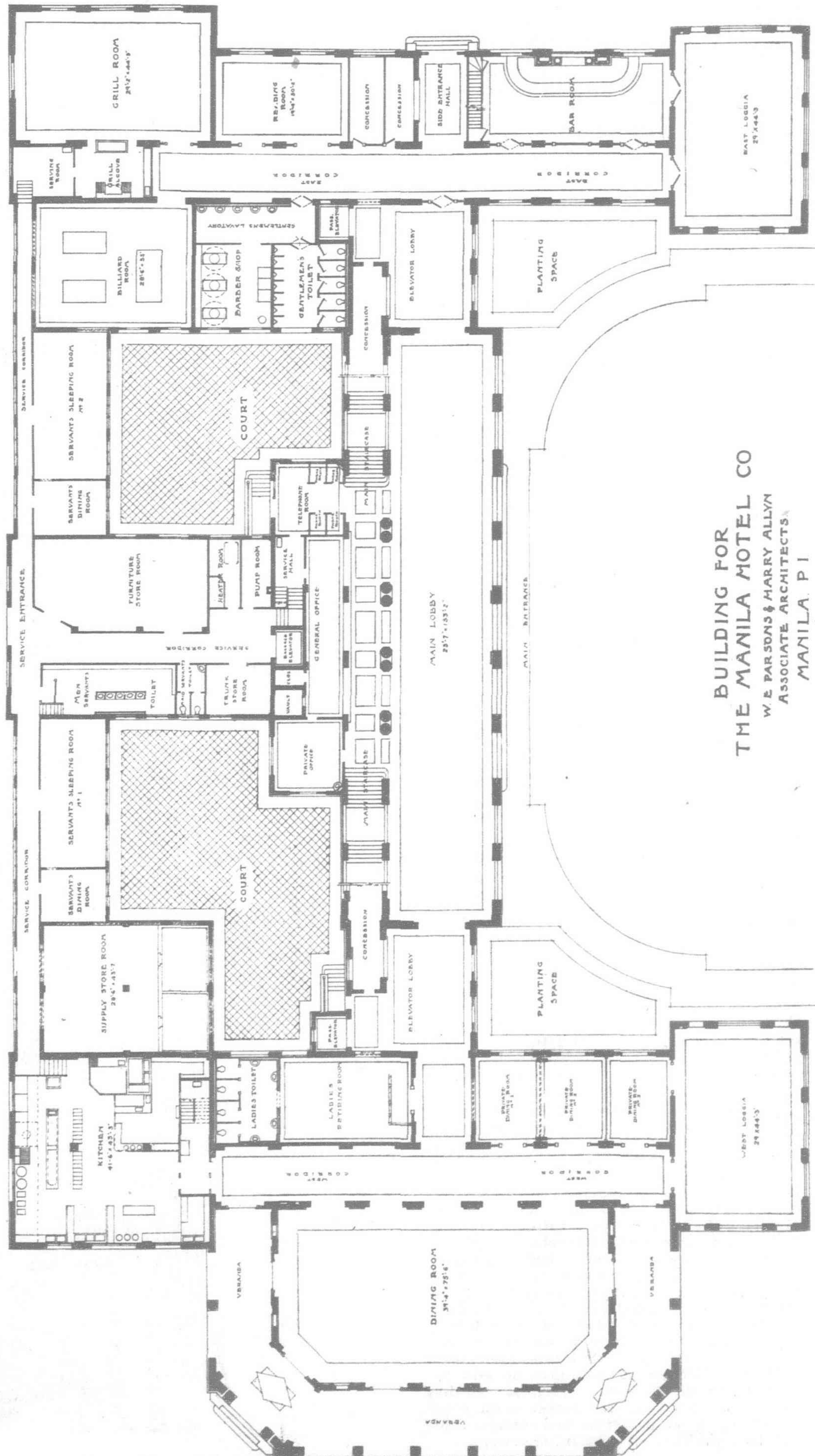
On the mezzanine floor are located a guests' parlor, 20 by 60 feet, a children's dining and play room, with butler's pantry connected direct with the kitchen by service stairway, also two suites each comprising bed room, parlor, bath and dressing room, sixteen bed rooms with baths and dressing rooms, and a suite of rooms especially designed for the manager.

The fourth illustration shows the arrangement of the second floor, and is typical of the three floors above, giving the house in all 149 guest rooms, half of which have private baths in connection. The object sought to be attained in the arrangement shown is plenty of air circulation, so necessary in a tropical climate. All rooms on the fourth floor have verandas, while nearly all on the second floor have balconies. Large decorative media aguas will protect the rooms from storms and the intense high lights so trying during the middle hours of the day.

Since the original plans were drawn an important change has been made by eliminating the objectionable sheet iron roof and substituting therefor roof gardens to cover all but the four corners of the wings. There will be a covered garden between the two towers over the central wing of the building and uncovered gardens over the east and west wings, each 35 by 100 feet, with passage ways through the towers connecting the two wings with the center. The east and west wings will be finished in the conventional asphaltum and sand floors while the covered garden over the main portion of the building, 35 by 130 feet, will have a smooth elastic floor of conolite suitable for dancing. This space, with its concrete balustrades and pillars, can in a few moments be fully pro-

tected from the severest weather without losing its attractive openness during sultry, calm evenings; thereby, in this tropical climate, it is particularly adaptable for use as a banquet hall, ball room, or for the accommo-

tion of conventions and other public gatherings. The electric elevators will land its passengers directly on the roof, eliminating the objectionable climb always necessary in other Manila sky-scrapers. There will be a buffet



BUILDING FOR
THE MANILA HOTEL CO
W. E. PARSONS & HARRY ALLYN
ASSOCIATE ARCHITECTS
MANILA, P. I.

with iced drinks for the thirsty and tea with other delicacies for those not inclined towards stronger refreshments. To keep edibles for banquet and dinner service at the correct temperature there will be refrigerators and steaming tables installed. Both ladies and gentlemen's toilet and dressing rooms are also provided, in fact the roof gardens as a whole neglect no essential of comfort or con-

venience. The four corners of the wings, not included in the roof garden scheme, and the two towers will be roofed with tile. The plans as worked out will give the building a much taller appearance and with its six towered skyline it will present very pleasing architectural lines. Above the roof garden, in the towers, are two rooms which are to be known as the "Aeroplane cafes," re-

served for members of the Aero Club and others who aspire towards higher altitudes and a surfeit of the pure ozone.

Dropping now seven stories, and landing one floor below the lobby, the kitchen basement is reached where the boilers for the supply of live steam to the kitchen cooking apparatus, and the supply for the hot water circulating system, are located. Here also are the oven, bakery, ice cream factory, fuel storage and garbage disposal.

The floors of the main lobby, elevator lobbies and side entrance are finished in white vitreous tile, with suitable borders, while all other corridors and hallways have conolite floors, and all bath and toilet rooms have glazed white tile floors. The interior wood work, including all windows, doors and finishings, are of the highest grade of Philippines mahogany, known locally as "narra". The main dining room will have a wood floor of alternate light and dark boards, 15 inches wide; for this "montol" and "manguachupay" have been selected. All suites and bed rooms, with bath, will have similar floors with boards 12 inches wide, while the balance of the bed rooms will be finished in 1 by 3 inch in-laid wood floors.

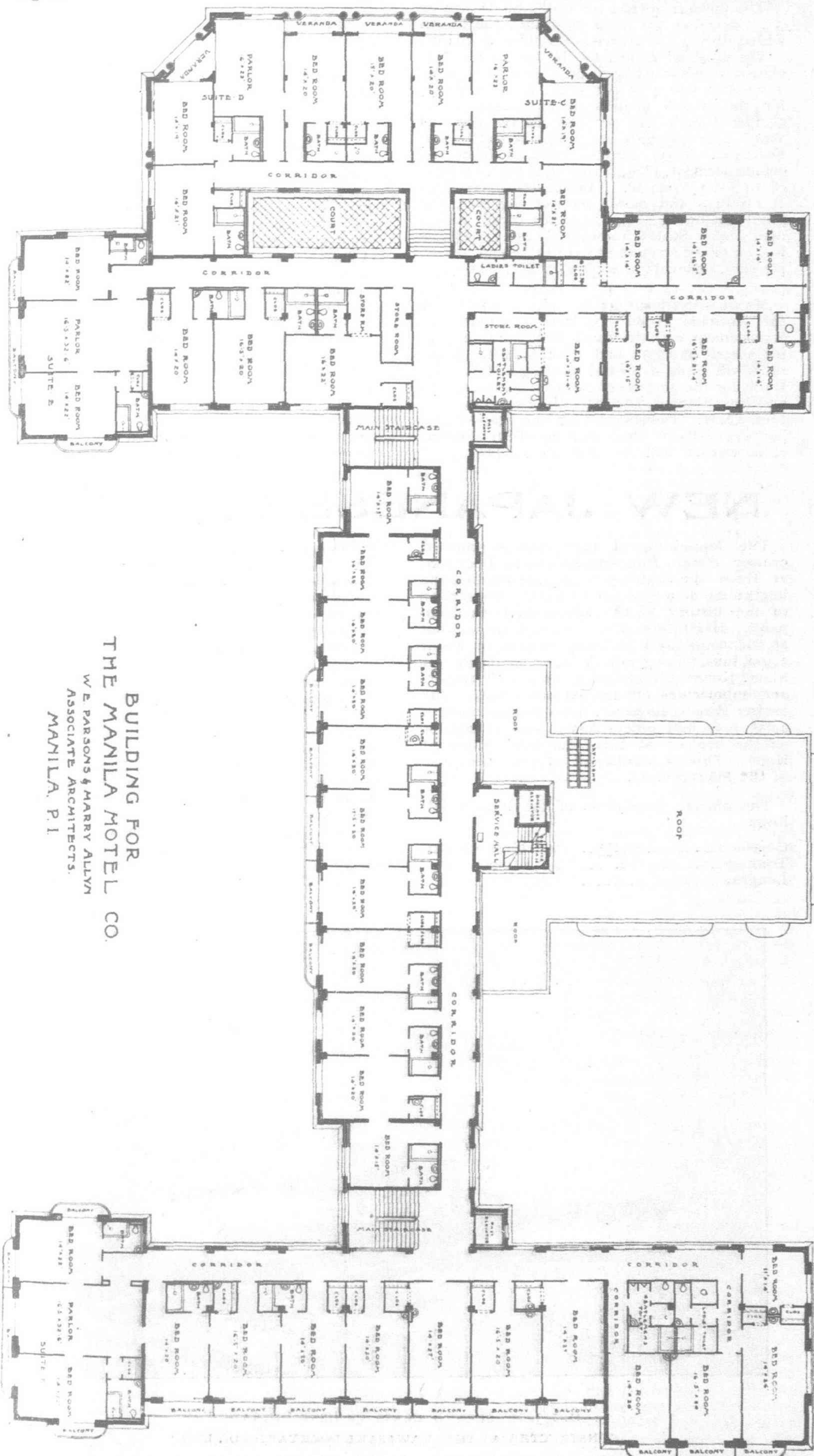
One can not appreciate the magnificent views to be had from any window of this structure, standing as it does in solitary grandeur in the center of what will be an immense park, without the actual experience. Looking from the front towards the south, with the Luneta Green in the foreground, the Army & Navy and Elks' Clubs receive the justice due them from an architectural standpoint. To the east, especially from the upper floors, the Walled City, its old moats and sunken gardens, are seen and appreciated as from no other point of the city. Then to the west and north, historic Manila Bay, with its panorama of shipping, and the new port, every day assuming more of a business aspect, are all spread out in the not too near distance, but just far enough to eliminate the noise and bustle so unpleasant to one seeking rest and comfort.

Just as every room has outside exposure, making them equally desirable except as to size, so the furnishings of practically all rooms are of uniform quality. The house is furnished throughout with the very best grade of Philippines mahogany (narra), with the exception that the cool, comfortable rattan is liberally provided for verandas, balconies and lounging rooms. All furniture, including the rattan, has been especially designed and manufactured locally for the hotel. Special attention has been given to the furnishings of the bridal suite, located on the second floor, which will be finished in antique colonial, and the state suite located on the third floor, and finished in empire design. Similar suites with modern Colonial and French designs of furniture are located in each wing of the other floors of the building.

To attempt details of the other equipment would require pages, suffice to say that the silver is furnished by the Meriden Britannia Company, and that the china, glassware and linen is complete, luxurious, and in keeping with the refined elegance of the house.

The Manila will be the first hotel in the Far East to be equipped with complete intercommunicating telephone system. Every guest room, as well as all public rooms, corridors and service halls, have telephones, together with push buttons for ordinary call service.

It is the intention of the management to make the hotel not only a center for the traveling public but for the social life of Manila. The object will be to meet every requirement of those to whom the hotel is a home, and to supply facilities unexcelled in any other city of the Orient, for those who wish to avail themselves of a modern hotel for entertaining. In this latter respect it is hoped to realize the charm and taste found in cosmopolitan hotels of America and Europe, combined with accommodations for balls and social functions such as have made some of the European hotels famous. In a word, it is expected to give Manila an establishment that will take its place as one of the famous hostleries, not only of the Orient, but of the world.



FAR EASTERN RAILWAY NEWS

CONNECTING SHANGHAI-NANKING AND SHANGHAI-HANGCHOW RAILWAYS.—Plans are completed for the junction between these two lines which will be placed under one administration when the connection is completed. This will be effected by a line running eastward from the Nanking line between Ferry Road and Jessfield and joining the Hangchow railway near Loonghwa Pagoda west of Sicawei Road.

THE KILIN-CHANGCHUN LINE.—In discussing the probability of the early completion of this line the Japan press is quoted as stating that more funds than originally estimated will be necessary to complete the work.

JAPANESE ROLLING STOCK.—The manager of the Japan Rolling Stock Co. estimates that in the next decade the Government railways will require 500 locomotives to meet the extensions proposed besides a large number required for private lines.

AMERICAN LOCOMOTIVES FOR JAPAN.—The American Locomotive Co. has secured orders for 5 engines for use on the Antung-Mukden division of the South Manchuria Railway and 6 engines for use on the Government railways in Chosen. The first award represents one-half of a purchase of 10 locomotives of the "10-wheeler" type. The order for the other 5 has been placed with Beyer, Peacock & Co., an English firm, which competed in the bidding with the American Locomotive Co. The latter company also recently secured a large order for locomotives for use on the Imperial railways of Japan. This latter order calls for 30 of the Pacific type and 6 of the Mallet type.

TIENTSIN-PUKOW TRAFFIC.—The passenger service on the Tientsin-Chinan section now includes a daily service instead of the former semi-weekly trains. These are exclusive of construction trains.

JAPAN'S WIDE GAUGE CONFERENCE.—The discussion has developed that the cost of the maintenance and necessary improvement of the present narrow gauge system of the Empire from 1912 to 1940 would reach yen 269,650,000 whereas if converted to the standard gauge the maintenance and improvement for the same period would reach yen 290,640,000, a difference of yen 21,000,000. On the other hand if the narrow gauge were adapted the necessity for construction and improvements to keep pace with the development of the country and increased traffic would mean an outlay of yen 1,270,000,000 while the cost of constructing the standard gauge with the exception of the Kyushu and Hokkaido lines would reach yen 1,427,000,000.

CHOSEN RAILWAY PURCHASE.—The private line connecting the colliery at Sadong and Pyongyang, a distance of nine miles, has been taken over by the Railway Bureau.

F. M. S. RAILWAYS.—A through night service has been inaugurated between Singapore and Kuala Lumpur, July 1st, by which the trip is made in less than twelve hours and with the extension of this service the distance from Singapore to Penang will be covered in 24 hours. The special train that inaugurated this service made splendid time on the F. M. S. section, but the fourteen miles of the Singapore Government line consumed 75 minutes. The special carried a modern dining saloon car constructed in the railway shops and sleeping cars have been ordered from the Metropolitan Railway Carriage and Wagon Co. of Birmingham.

F. M. S. ANNUAL REPORT FOR 1910.—General Manager Anthony's report indicates a prosperous year. There was a decrease in minerals carried but a large increase in product and footstuffs, while double the quantity of rubber was transported compared with the previous year.

Passenger receipts show a satisfactory increase, particularly the 3rd class, which increased 24.27

per cent in number. Gross earnings from all traffic increased by 13.11 per cent. Working expenses decreased by 2.11 per cent. Net earnings increased by 50.90 per cent.

The mileage opened for traffic on December 31, 1910, was 538 miles 75 chains, the length added during the year was 68 miles 48 chains.

The dividend earned by the open lines (exclusive of motor services) on a capital of \$51,335,128.16 was 4.35 per cent., or a net profit for the twelve months of \$2,236,231.14, as compared with 3.18 per cent. in the previous year. The aggregate net profits earned by the Federated Malay States Railways from the commencement, 1885, to the end of 1910, amounted to \$21,178,044.68. Taking the open lines of railways and motor services together, the profit amounted to \$2,159,814.01 (profit Federated Malay States Railways \$2,236,231.14 less loss on motor services \$76,417.13), equal to 4.17 per cent. on a capital account of \$51,784,083.53.

MANILA-ANTIPOLO LINE.—The promoters of the Antipolo Hotel Co. have concluded an arrangement with the Manila Railroad Company for special rates to and from Manila. These rates will apply to special morning and evening trains for the purpose of carrying commuters to and from Manila. The schedule of rates follows: First Class: Tickets good for one year—P225; half year—P125; three months—P82. Second class tickets will be sold as follows: good

for one year—P170; half year—P110; three months—P57.

The trains will leave Manila at 6 o'clock in the evening and Antipolo at 7 o'clock A. M. The purpose is to accommodate Manila business men taking up their residence at Antipolo, a cool mountain town.

CHINESE RAILWAYS TO BE NATIONALIZED.—According to the *Sinwanpao* the following lines will be included in the program of nationalization:

The Kirin Changchun Railway—The line is under construction and the total length is 80 li which will be extended from Kirin to Chientao for 240 li after the line between Kirin and Changchun is completed.

The Chingchow Aigun Railway—The contract was signed in 1910 with a British Syndicate for a length of 750 li to be built by the said British Contractors with British funds.

The Kalgan Shuiyuancheng line—The length is 180 li and it has been built up to Chiaichupao to be extended to Kulun (Urga) and Kiakhta.

The Chenting Tehchow line—The length is 110 li to connect the Peking-Hankow and the Tientsin-Pukow Railways at Tehchow but work is not commenced yet.

The Chefoo Weihsien line—From Chefoo to Weihsien the length is 170 li. The Shares of the Company are not subscribed yet and it will become a government undertaking.

NEW JAPANESE CRUISER

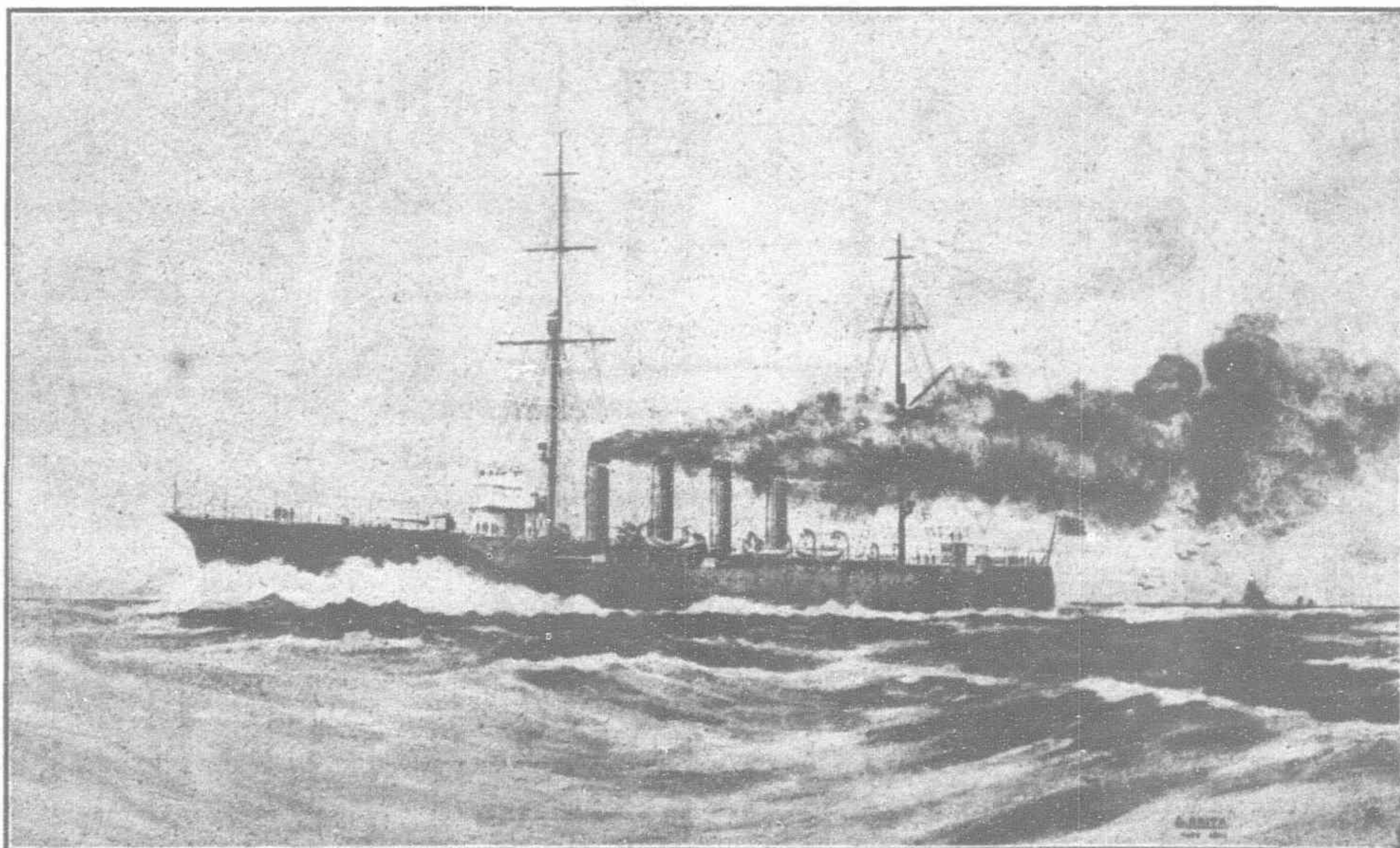
The launching of the Japanese armored cruiser Hirado from the Kawasaki Dockyard at Kobe the latter part of June marked the beginning of a new era in naval construction in the history of the Kawasaki Dock Company. Heretofore the warships turned out at the company's included vessels of about 1,500 tons, among which were gunboats for Siam, Korea, China and Japan and destroyers and submarines for the Japanese navy. The cruiser Hirado, however, has a displacement of 4,955 tons and orders have been placed for another cruiser at this company's yards at Kobe. This is significant of the enterprise of the management.

The official description of the Hirado follows:

Class.....	2nd class cruiser.
Tonnage.....	4,950 tons.
Length.....	475 feet.

Beam.....	46.6 feet.
Depth.....	28.6 feet.
Draught.....	16.7 feet.
Horse-power.....	22,500.
Speed.....	26 knots.
Engines.....	Latest Turbine.
Boilers.....	Water-tube style.

The occasion of the launching was made memorable by the presence of H. I. H. Prince Kita Shirakawa, accompanied by Baron Saito, Minister of the Navy, Vice-Admiral Baron Ijuin, Vice Admiral Kato and Inspector General Fukuda. A collation was served after the ceremony at which Mr. Kawasaki, vice president of the company, Baron Saito, and Governor Hattori delivered short addresses. Among the official guests were Sir Douglas Brownrigg, Naval Attache, British Embassy, Captain Shipley, U. S. N., Attache, American Embassy, and a large number of foreign naval officers.



H. I. J. M. SECOND CLASS CRUISER "HIRADO."
(CONSTRUCTED AT THE KAWASAKI DOCKYARD CO., LTD.)

The Tatung Puchow line—From Tatung to Puchow, Shansi, length 450 li. Completed up to Pingyao-hsien, 60 li.

The Tongkwan Loyang line—From Honanfu to Tongkwan, length 30 li. The survey concluded in 1909. Prepared to be built.

The Hsian Tongkwan line—From Hsianfu to Tongkwan, 56 li. Surveyed in 1910, waiting for construction.

The Hsian Lanchow line—From Hsianfu to Lanchowfu, 80 li, in the course of surveying but not within the list of the Ministry of Communications.

The Lanchow Ili line—Length 1,250 li, surveyed and waiting the arrival of the Tartar General Chih Jui of Ili. Further investigation will be effected.

The Kaifeng Hsueh line—From Kaifengfu, Honan, to Hsueh in Kiangsu, length 175 li, surveyed in 1910 and is prepared for construction.

The Hsueh Chingkiangpu line—Length 120 li to be completed in 1912.

The Chingkiangpu Haichow line—a Trunk line—from Chingkiangpu to Haichow, Kiangsu, from the East to the West.

The Chingkiangpu Kwachow line—Length about 100 li.

The Sinyang Pukiang line—From the Sing-

yang Station of the Peking Hankow Railway to Pukiang. Length 270 li.

The Swatow Chowchowfu line—200 li from Chowchowfu to Swatow via Huichow and Silung or Tsencheng to join Canton Kowloon Railway.

The Macao Fatshan line—75 li. Portuguese got concession in 1902.

The Kweilin Techow line—Length 80 li, surveyed.

The Yunnan Railway—Survey by American engineer by the order of the Viceroy of Yunnan.

The Lienshan Lungchow Railway—The French concession coming from Hoiho, length 46 li, if extended to Nanking 150 li.

Yunnan Burma Railway—Length 123 li, whole line already surveyed.

SUPPLY OF INDIAN RAILWAY MATERIAL.—Messrs. W. and T. Avery, Limited, English weighing machine manufacturers, have a large order in hand for the supply of eight automatic self-contained weigh bridges to the Burma Railways Company. Messrs. S. Maw and Sons, and Messrs. Mayor and Maltzer, had an order each for the supply of surgical instruments and hospital necessities, etc., to this line; and the Dental Manufacturing Company, Limited, for the supply of dental instruments. Messrs. Walter's Electric Manufacturing Company, Limited,

had a contract for the supply of 35 sets of arm and lamp repeaters, together with 3 bells, to the Burma Railways. Messrs. J. and T. Howard, Engineers, Bedford, Beds, have, we hear, an order for the supply of two hundred pairs of steel wheels and axles, 2 feet 6-inch gauge, to the North-Western State Railway. Messrs. Head, Wrightson and Company, Limited, Teesdale Ironworks, Thornaby-on-Tees, have the contract of the East Indian Railway Company for the supply of the 16 spans of girders which are required for the new second track over the Jumna Bridge, Allahabad. The Patent Shaft and Axletree Company, Limited, Wednesbury, English girder bridge manufacturers, have the order of the East Indian Railway Company for the supply of 14 spans of girders and 13 pairs of slip rails, which are required for the second track over the Jumna Bridge, Delhi. The Leeds Forge Company, Limited, is to furnish the underframes, bogies, wheels, axles and body fittings required for fifty-five 60 feet third class passenger coaches and for fourteen 45 feet third class and baggage cars, also sixty sets of pressed steel bogie parts of coaching stock on the Bengal and North-Western Railway system, and fifty-six-wheeled ballast trucks and fifty four-wheeled low-sided wagons for the metre gauge lines of the Eastern Bengal State Railway system.

PHILIPPINE MINING NEWS

AUSTRALIAN CAPITAL LOOKING FOR INVESTMENT.—According to the present outlook there is every indication that the labors of several unobtrusive citizens of Manila during the past six months will result in interesting some of Australia's most prominent public men and mining financiers in Philippine placer mining propositions. The task of bringing land owners and capitalists to see eye to eye is one of great difficulty, particularly when the methods of doing business peculiar to two countries are involved, each of which is foreign to the other, and especially in an initial deal, but patience and perseverance eventually triumphed and an adjustment of terms concluded satisfactory to both parties. The conclusion of the deal rests upon the report of the expert.

Mr. J. Bertenshaw, the expert who departed for Melbourne on the 10th inst. to report upon the various properties in the Paracale District which have been engaging his attention since his arrival there some 10 weeks ago, represents a group of notable mining financiers, and is himself a man of extensive experience in gold dredging, having been associated with the business for 17 years in New Zealand and Australia, the last eight of which he has been manager of the Campbell's Creek Gold Dredging Co., which operates its dredges at Castle-maine, Victoria.

The Syndicate, which is represented by Mr. Bertenshaw, controls companies which operate no less than 14 dredges in Victoria, and its personnel comprises some men of repute among whom might be mentioned, Sir Henry Weedon, J. P., M. L. A., (Member of the Legislative Assembly), late Lord Major of Melbourne; the Hon. John McWhae, M. L. C. (Member of the Legislative Council), ex-Chairman of the Melbourne Stock Exchange, the Hon. J. G. Aitken, M. L. C., a well known merchant prince who is proprietor of a large dry goods establishment and gigantic hotel property known as the Melbourne Coffee Palace, both occupying extensive frontages on Bourke Street, one of the principal thoroughfares of Melbourne where land changes hands at the remarkable figure of £1000 per foot, and A. F. Showers, prominent in mining circles as the legal manager of a number of the most successful mining ventures.

The Syndicate has under offer to it practically the whole of the claims on the Paracale and Malaguit rivers that are worth having and it is probable in the event of the parties concerned coming to a satisfactory arrangement a large electrical generating plant will be installed and the dredges and mills operated by electricity. The cost of operating would thus be reduced to a minimum enabling the poorest ground to be worked whereas if the more costly method of steam power on each dredge be adopted certain portions of the ground containing low values would have to be passed over.

There is held in the district a quantity of ground which does not contain sufficient flats in proportion to the hills to make it worthy of consideration at the price asked by the owners

and in regard to the ground which is held for "paddock dredging" the water question has still to be solved. It is one thing for the owner to point out how nicely one can arrange for water to be brought up by the tide, and another thing to convince the expert, who has years of experience under such conditions and who knows just how much water is required to enable the work to be carried on without the pumps refusing to lift the "soup" in which the dredge would be floating before the tide returned to replenish the supply.

There is plenty of property in the Paracale district to be exploited and plenty of capital willing to exploit it as soon as the owners are willing to come down to a reasonable proposition. There is no reason why connections cannot be made through representatives of capital now in Manila which will enable the owners to have their ground experted and the values disclosed. It should also be borne in mind that the values are not represented by the amount of gold contained per cubic yard, but by what the proposition represents in net returns after the cost of extracting and saving the precious metal.

We have reason to believe that satisfactory arrangements will be concluded between the Melbourne capitalists and the owners represented by J. Burlingame Johnson, and in the event of these negotiations being brought to a successful termination a modern, 7 foot bucket dredge will be installed as soon as it can be constructed and placed on the ground, while the present dredge of the Paracale Gold Dredging Co., will be subjected to certain alterations which will greatly affect the gold saving capacity. The consummation of this deal will mean much to the industry and it is only those in the know who are able at the present moment to realize the extent of the beneficent influence which the introduction of capital will mean to the Philippines.

THE COLORADO MINING CO.—Advices from Masbate are to the effect that the installation of the mill and cyanide plant of the Colorado company is about completed and that it will be in operation by the end of September. This plant has a capacity of 100 tons a day and is the largest yet brought to the islands.

THE HEADWATERS MINING CO.—This plant having a capacity of 70 tons has been operating for the last month, but no official report has been received although the result of the first clean-up arrived in Manila about August 10.

THE EXPLORATION COMPANY.—The flotation of the Gumaus placer property undertaken under option by the Exploration Company has been successfully consummated, the necessary stock being subscribed by local Philippine capital. The dredge designed for this property has been ordered through the New York Engineering Co. and will be installed with expedition. The Exploration is now controlled

by Philippine capital with a local board of representative businessmen of Manila. The flotation of the Gumaus is evidence of the faith of Philippine capitalists in Exploration properties notwithstanding the surreptitious closing of the San Mauricio. The company will proceed conservatively and expect to be in a position to reopen the San Mauricio and proceed to the development of its other properties as soon as feasible.

AMALGAMATION OF SEVERAL GROUPS OF BENGUET CLAIMS.—British capital is interested in a project to secure control of a number of groups of properties that are now being investigated with a view to consolidation and the installation of a large plant in that district. These groups are: The Muyot, Bua, Antimok Valley, Madison, Camote-Clayton, Fianza, Antimok Consolidated, and Hillside Groups.

LONDON METAL MARKET

JUNE 9, 1911.

COPPER.			
	£ s. d.		£ s. d.
*Tough cake and ingot	60 10 0	..	61 0 0
*Best selected	60 0 0	..	61 0 0
*Electrolytic	60 15 0	..	61 5 0
*Sheets and sheathing	71 0 0	..	—
*Flat bottoms	74 0 0	..	—
STANDARD { Cash	56 15 0	..	56 18 3
{ Three months	57 6 3	..	57 7 6
*Copper tubes, seamless per lb. ..	0 0 8½	..	—
*Lake	—	..	—

* Less 3¼ per cent.

† Net.

ALLOYS.			
BRASS: Wire	0 0 6¾	..	—
" Tubes (solid drawn)	0 0 6¾	..	—
" Sheets	0 0 7	..	—

TIN.			
English ingots, f. o. b.	193 0 0	..	194 0 0
" bars	194 0 0	..	195 0 0
" refined	195 0 0	..	196 0 0
Straits... { Cash	193 0 0	..	195 10 0
{ Three months	188 10 0	..	188 15 0
Australian spot	—	..	—
Banks (in { Cash	193 0 0*	..	—
Holland) {	—	..	—

*Close of market for prompt.

LEAD.			
Spanish or soft foreign	13 6 3	..	13 8 9
English pig, common	13 8 9	..	13 11 3
" L. B.	14 0 0	..	—
" sheet and bar lead ..	15 2 6	..	—
" pipe	15 12 6	..	—
" red	16 0 0	..	—
" white	18 10 0	..	—
" patent shot	16 10 0	..	—

SPELTER.			
Silesian ordinary brands	24 10 0	..	24 15 0
" special brands	24 15 0	..	25 0 0
Sheet zinc	29 0 0	..	—

ANTIMONY.			
Antimony	28 10 0	..	29 10 0
" Crude	11 5 0	..	12 5 0
" Ore (basis 50%)	7 5 0	..	7 15 0

QUICKSILVER.			
Flasks, 75 lbs. warrants	8 7 6	..	—

ALUMINIUM. Per ton.			
98-99 per cent.	60 0 0	..	61 0 0

NICKEL. Per ton.			
98-99 per cent. guaranteed	167 10 0	..	171 0 0

PLATINUM.			
Per oz. Troy, 172s. 6d.; nominal and subject to negotiation.	—	..	—

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